

**Nickel-Catalyzed Asymmetric Reductive Cross-Coupling between
Heteroaryl Iodides and α -Chloronitriles**

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Supporting Information 2 (Spectra):

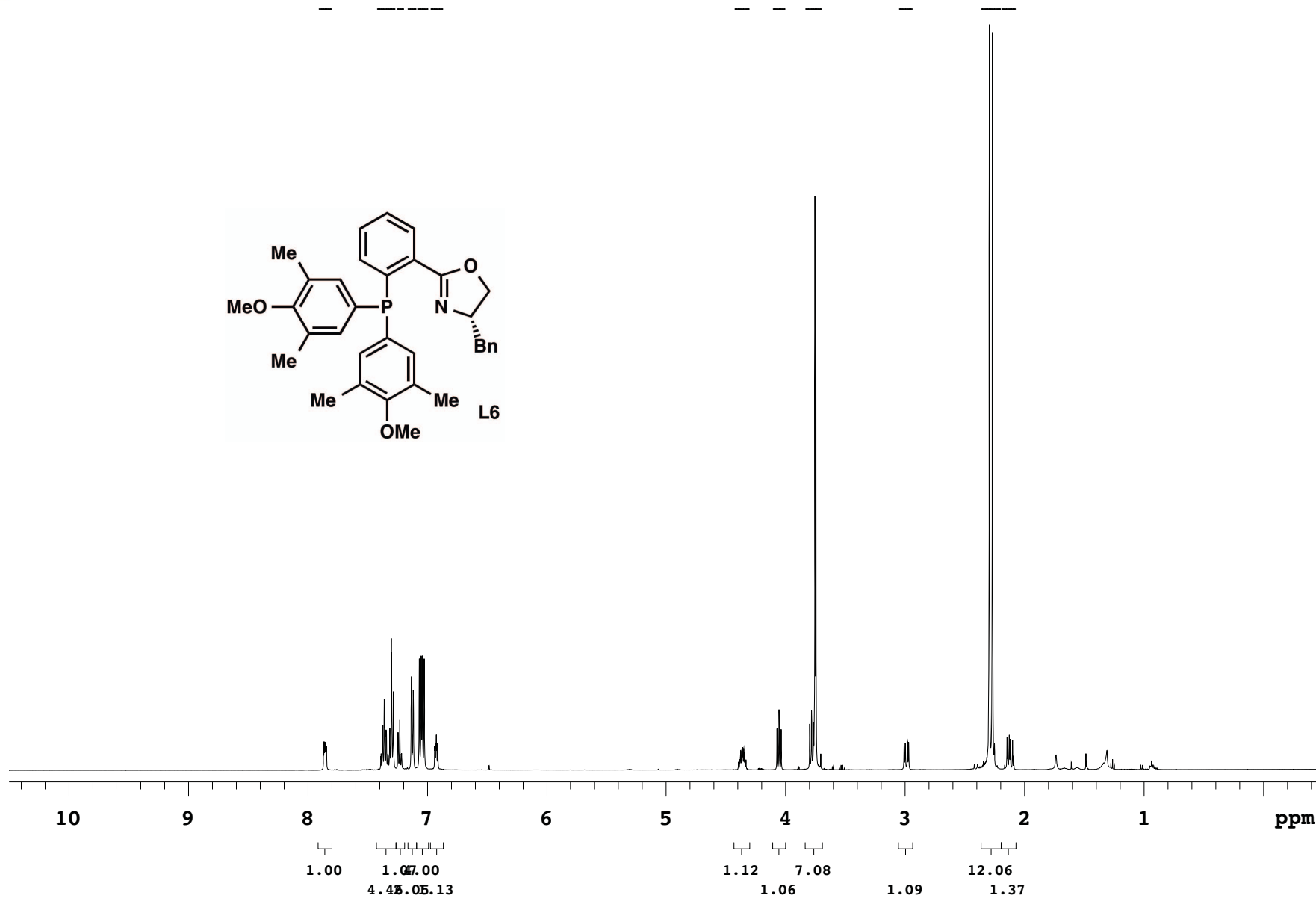
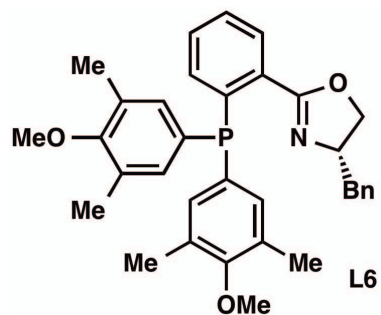
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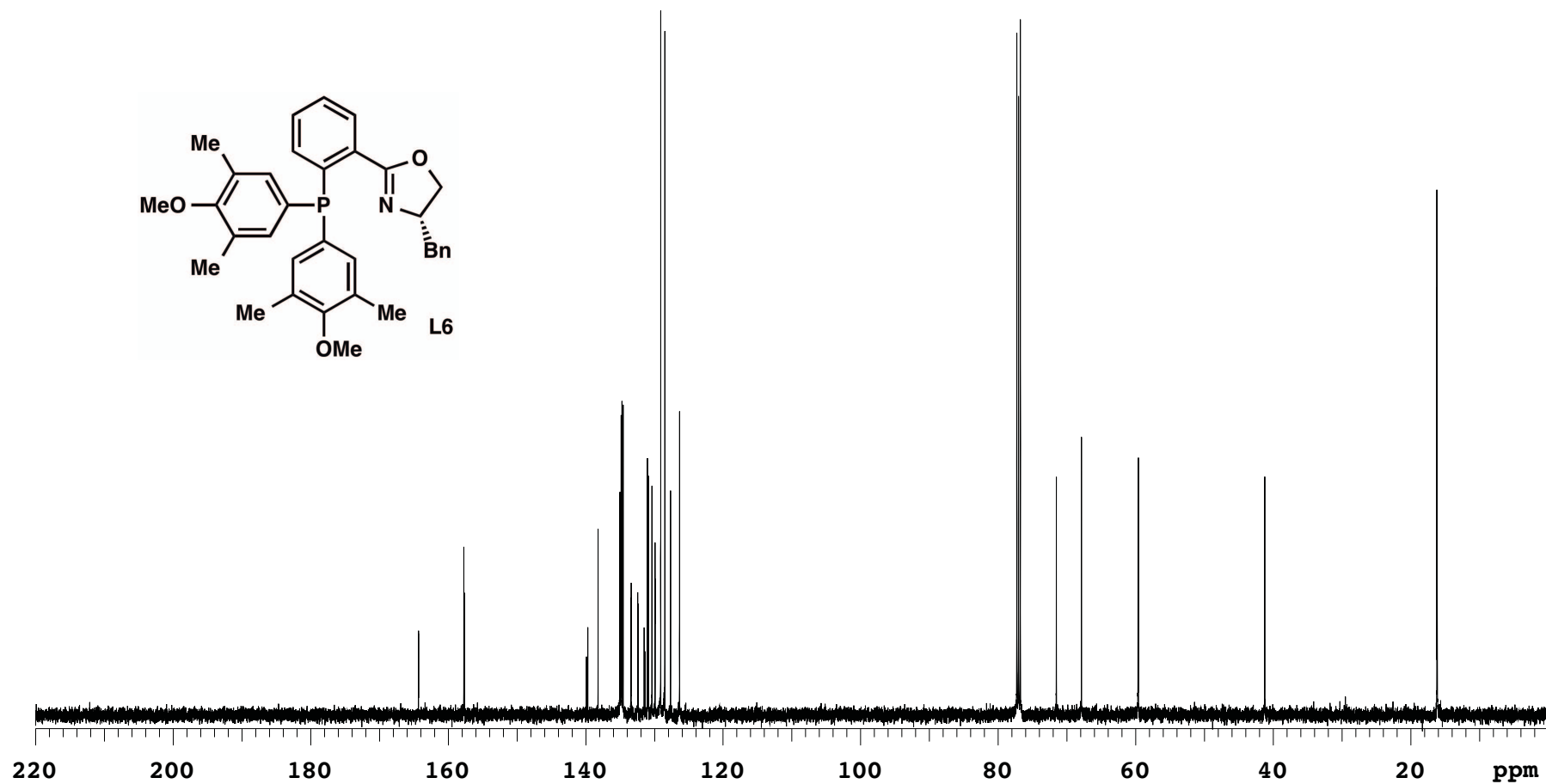
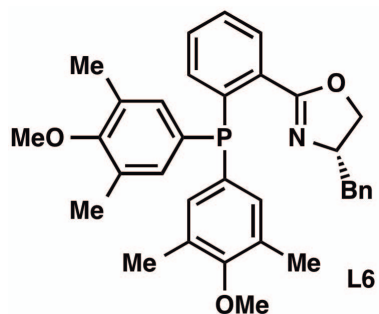
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Date collected 2015-05-19

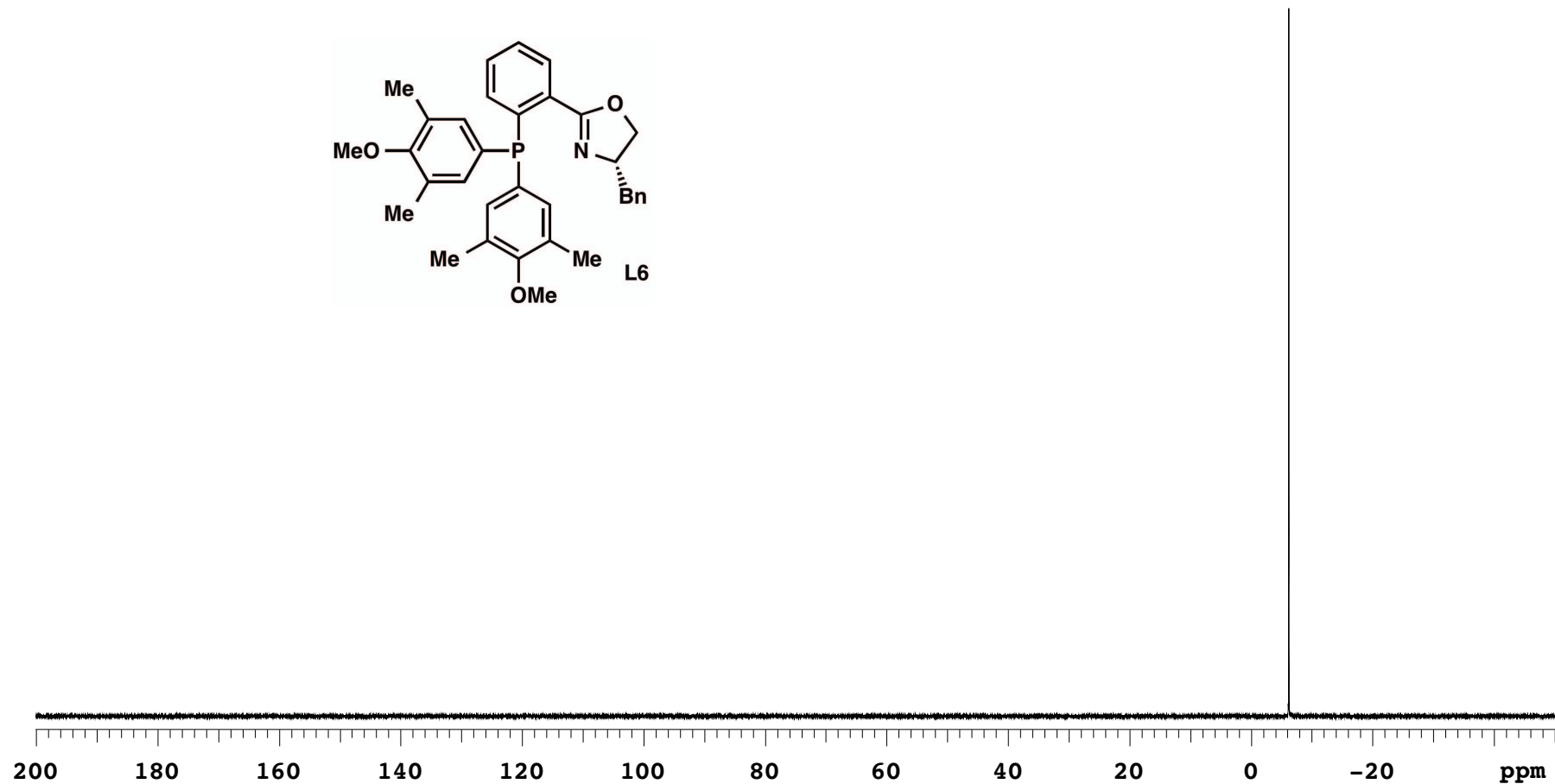
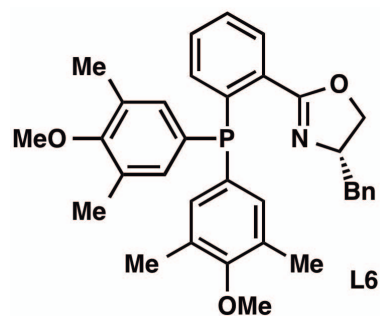
Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser







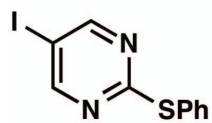
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Sample Name NTK-IV-SPhArI
Date collected 2015-05-19

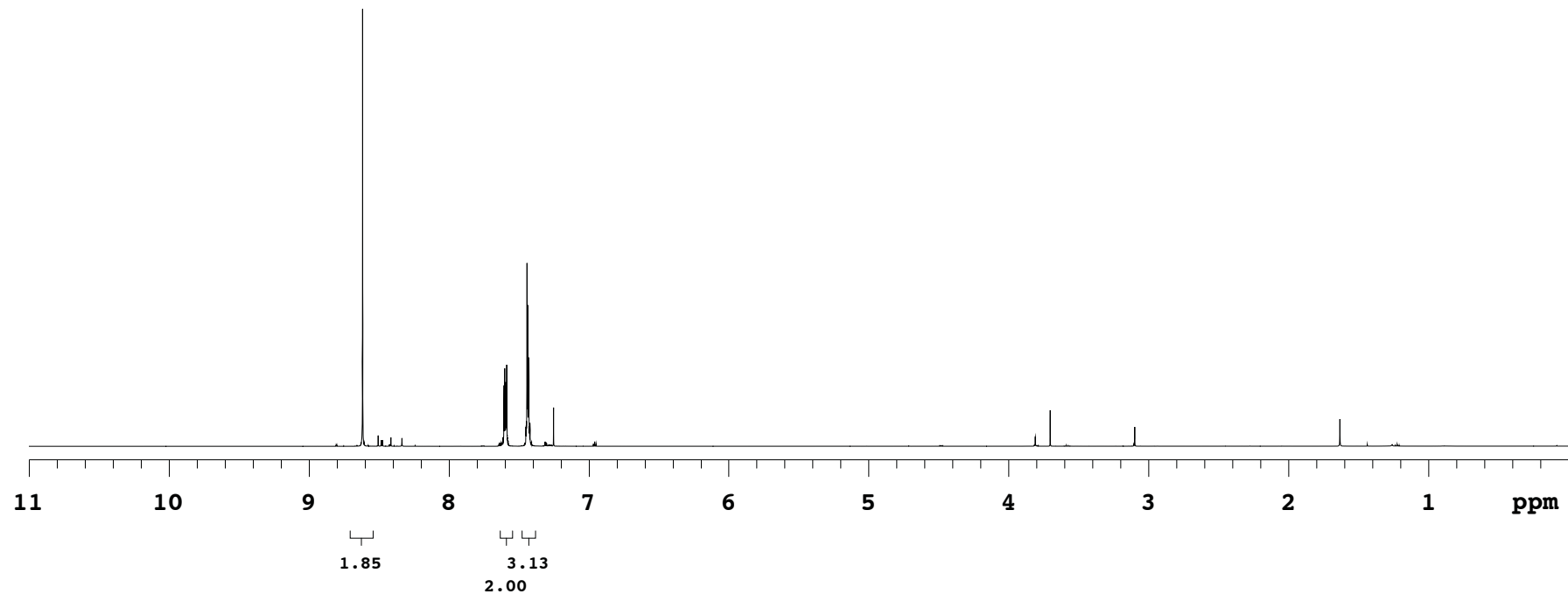
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Solvent cdcl3

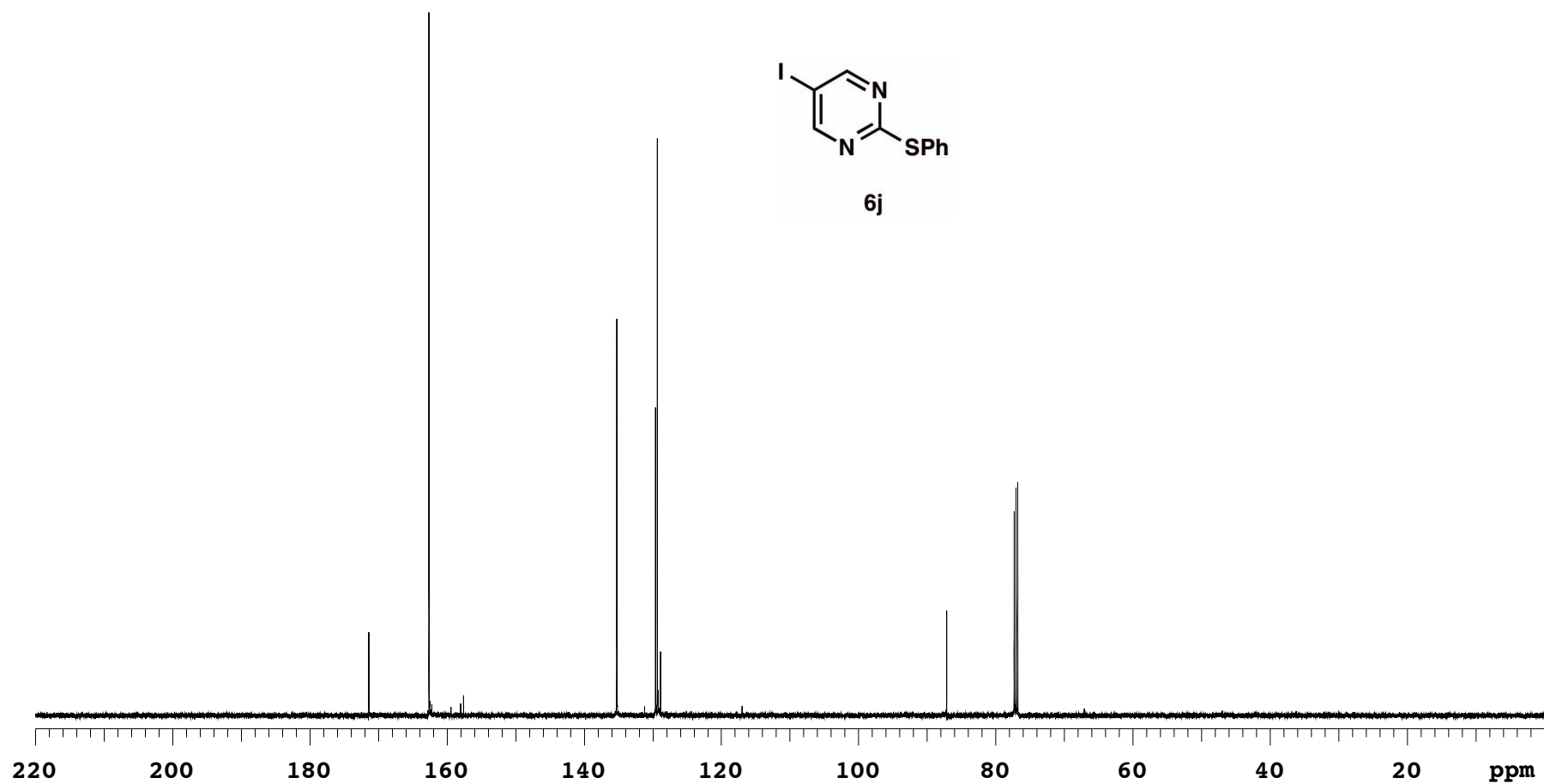
Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



6j





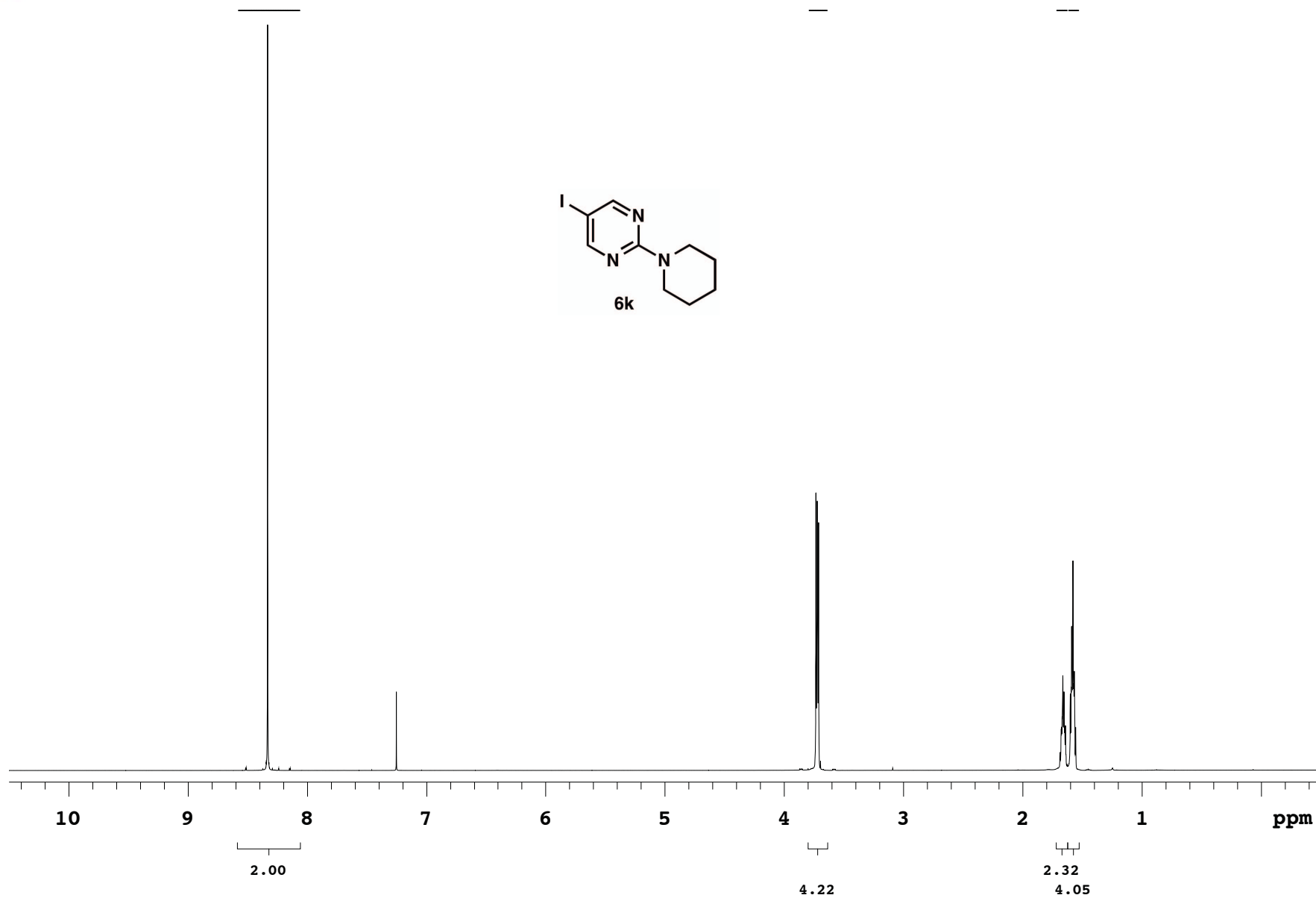
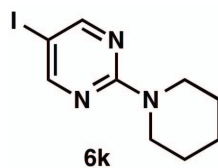
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Sample Name NTK-IV-piperidylArl
Date collected 2015-05-19

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



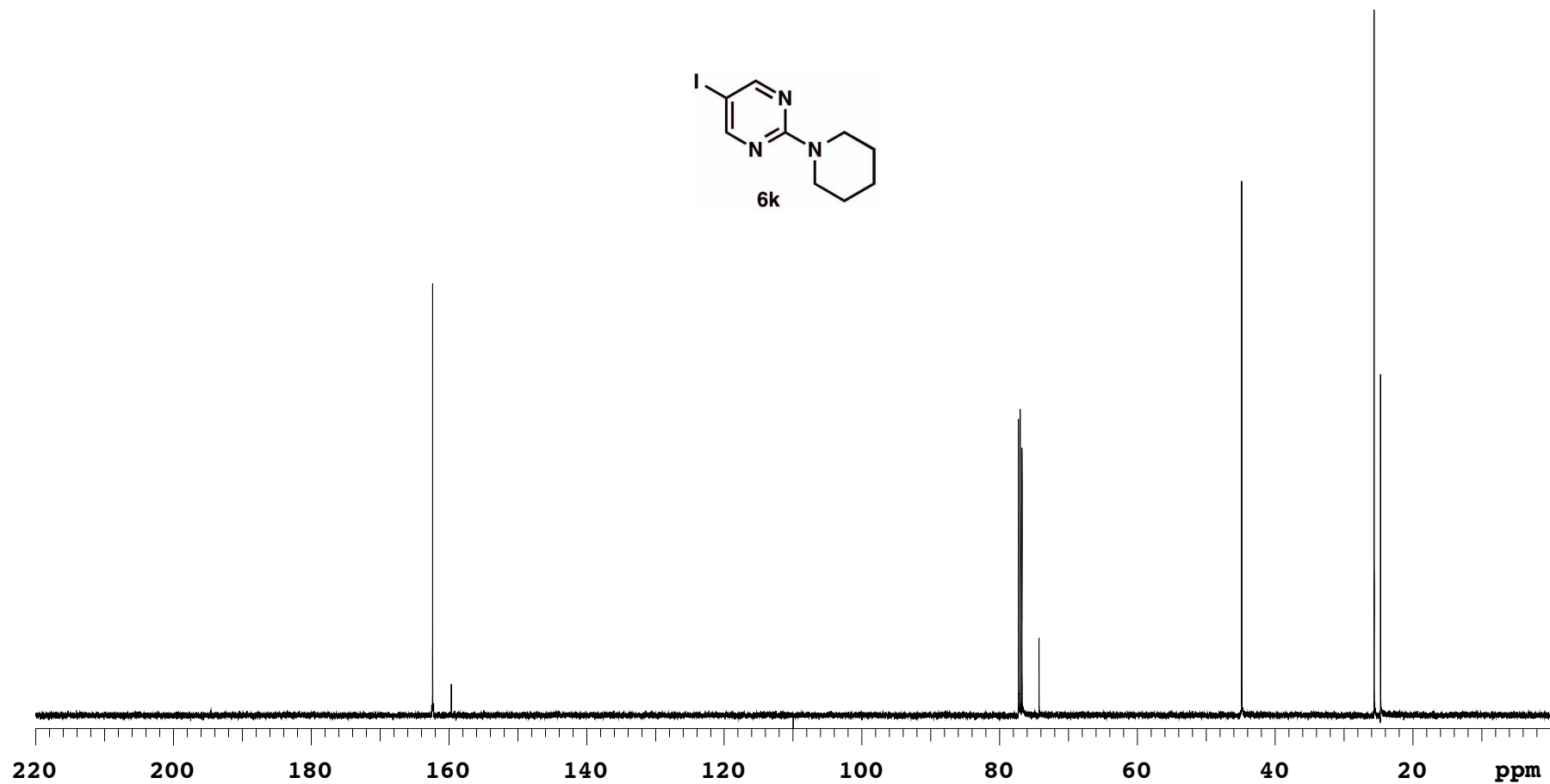
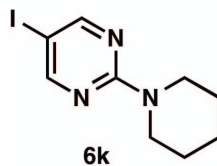
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Sample Name NTK-IV-piperidylArl
Date collected 2015-05-19

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



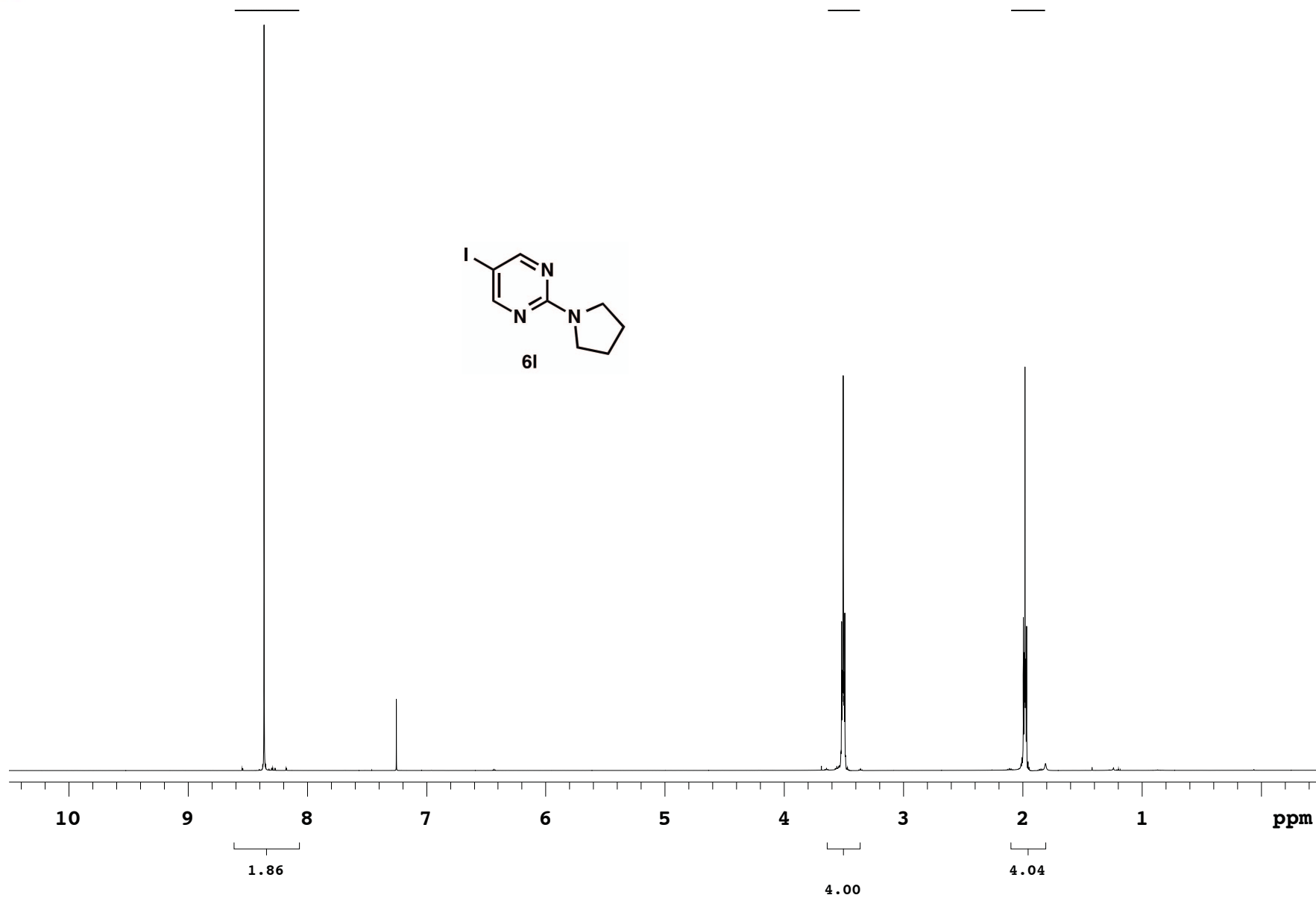
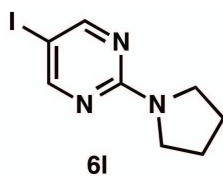
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Sample Name NTK-IV-pyrroloArI
Date collected 2015-05-19

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



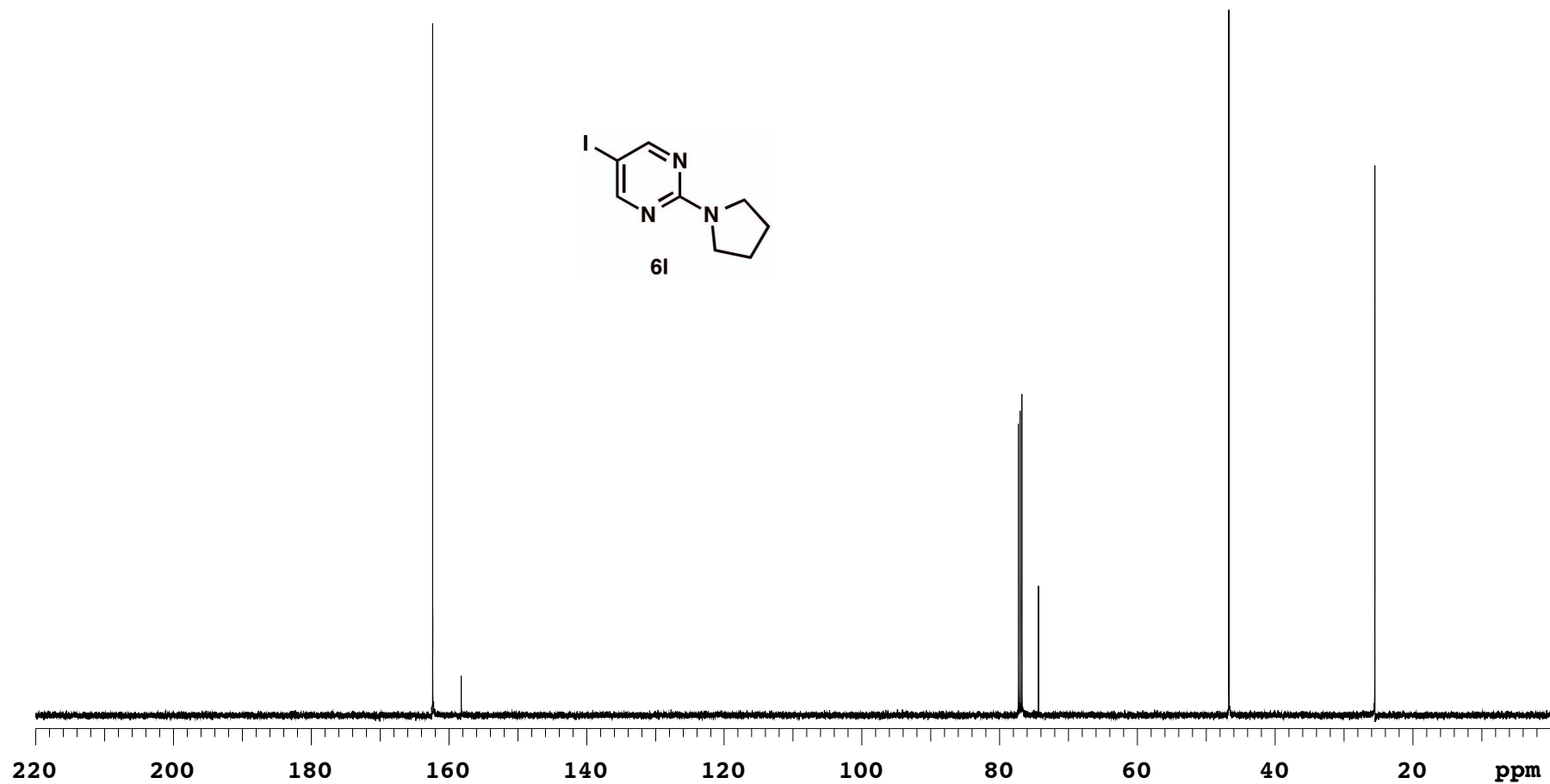
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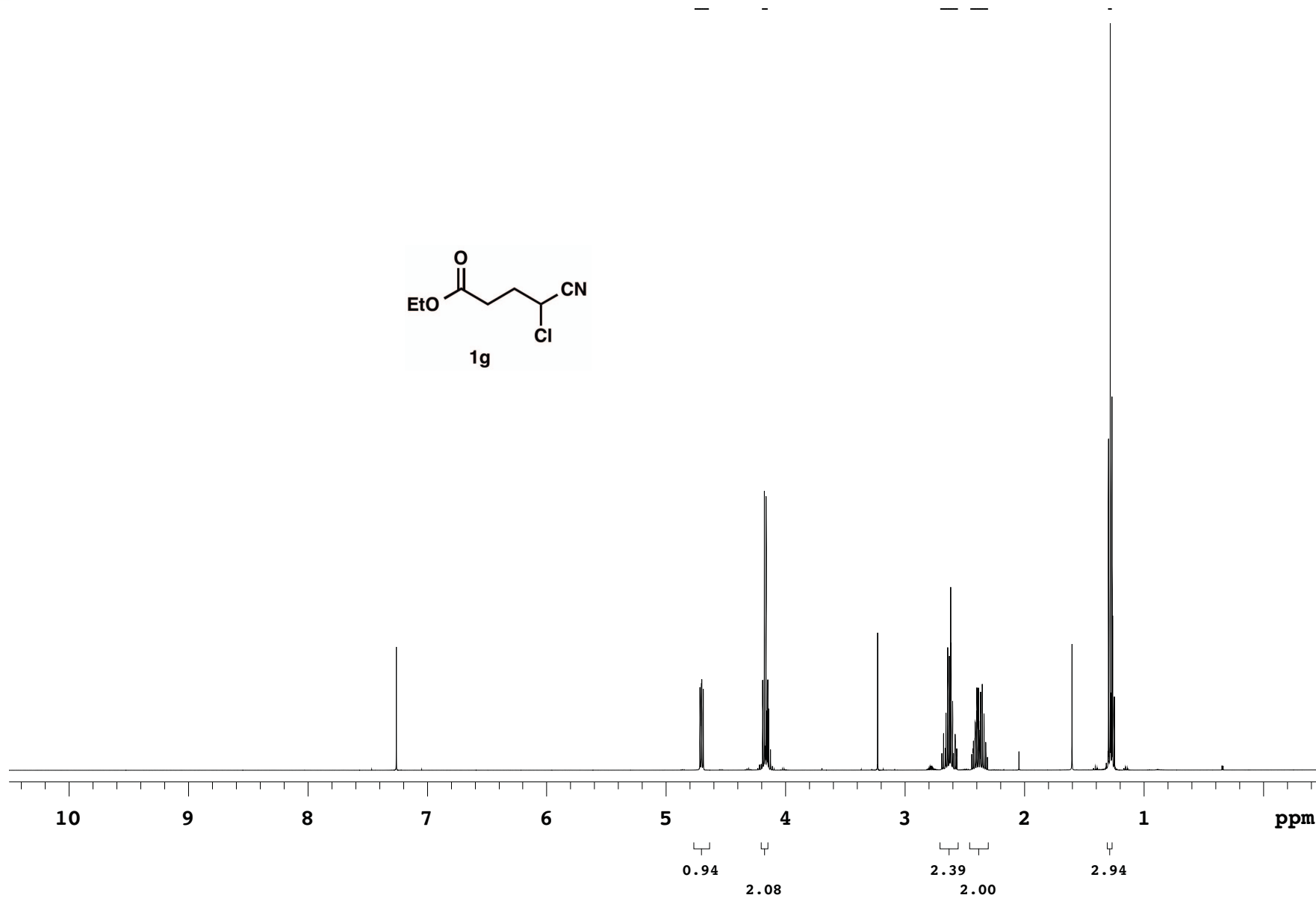
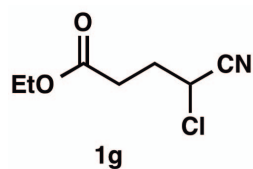
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Date collected 2015-05-19

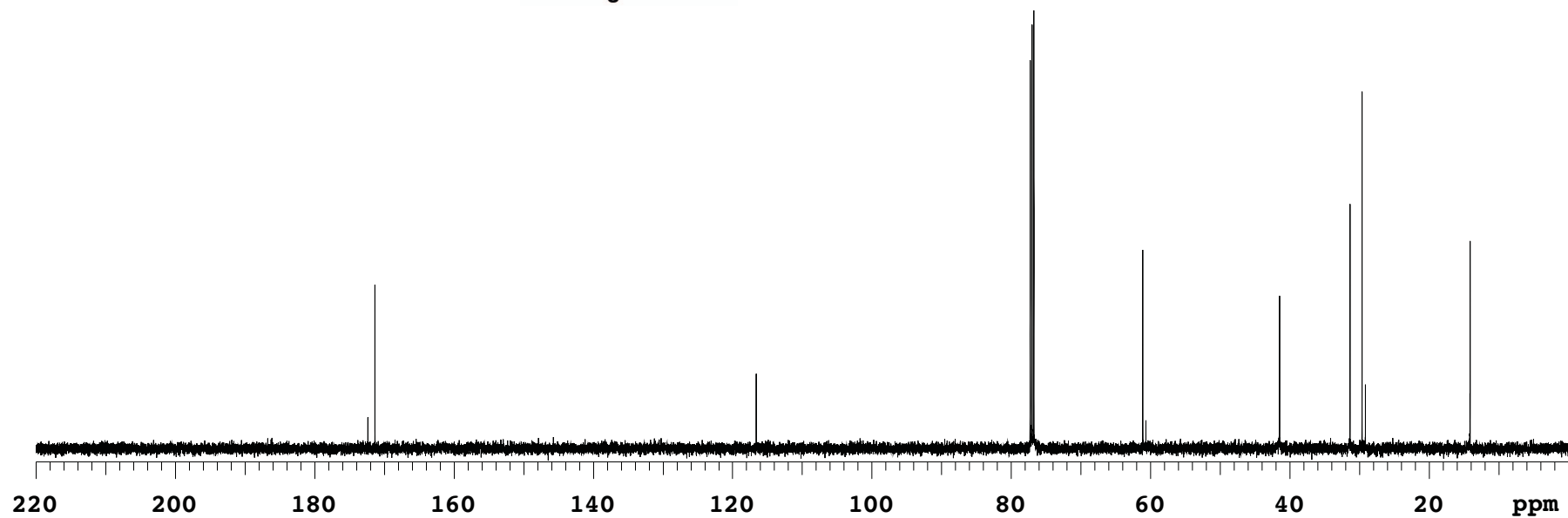
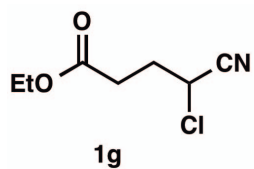
Pulse sequence CARBON
Solvent cdcl3

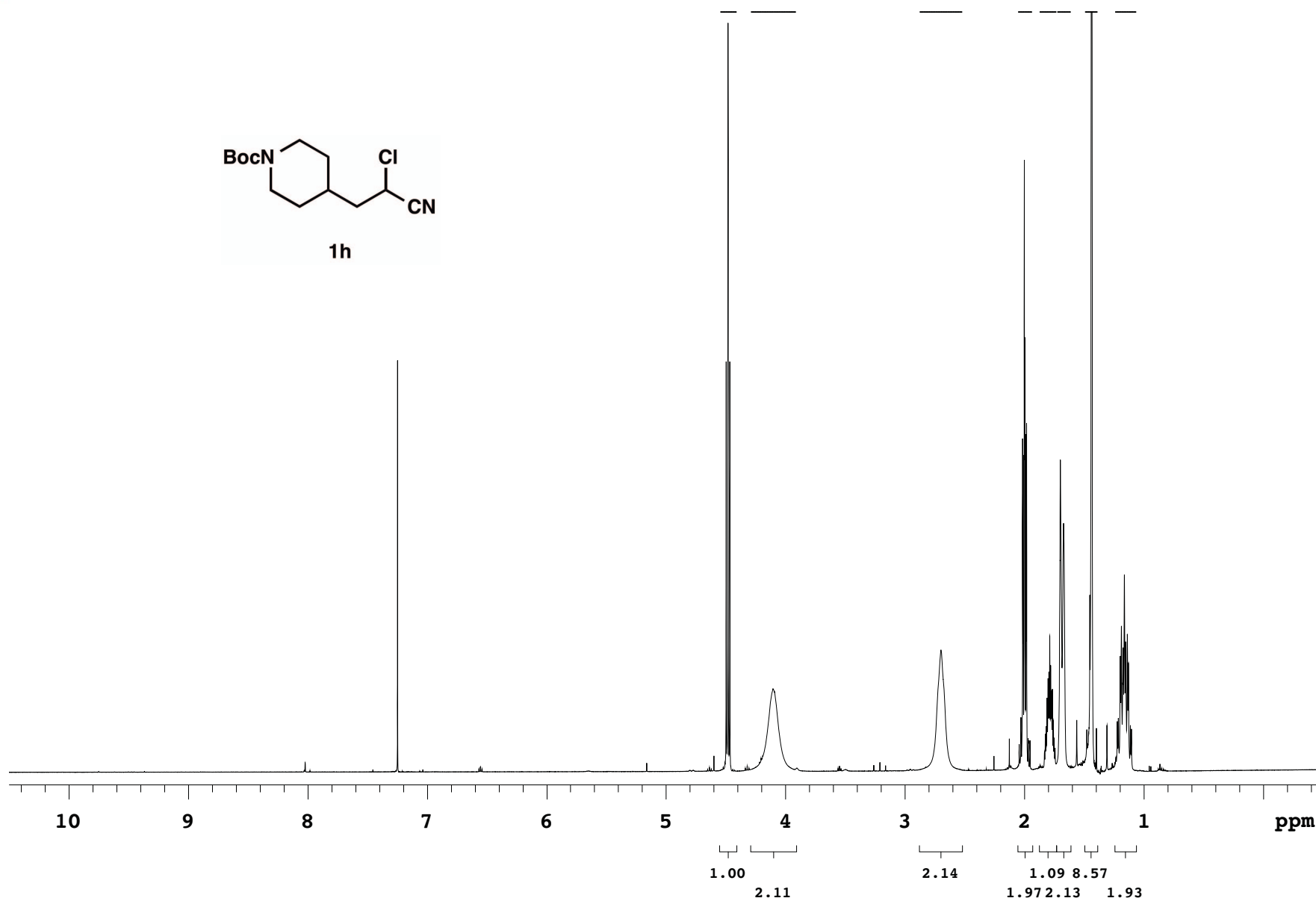
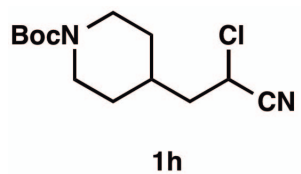
Temperature 25
Spectrometer -vnmrs400

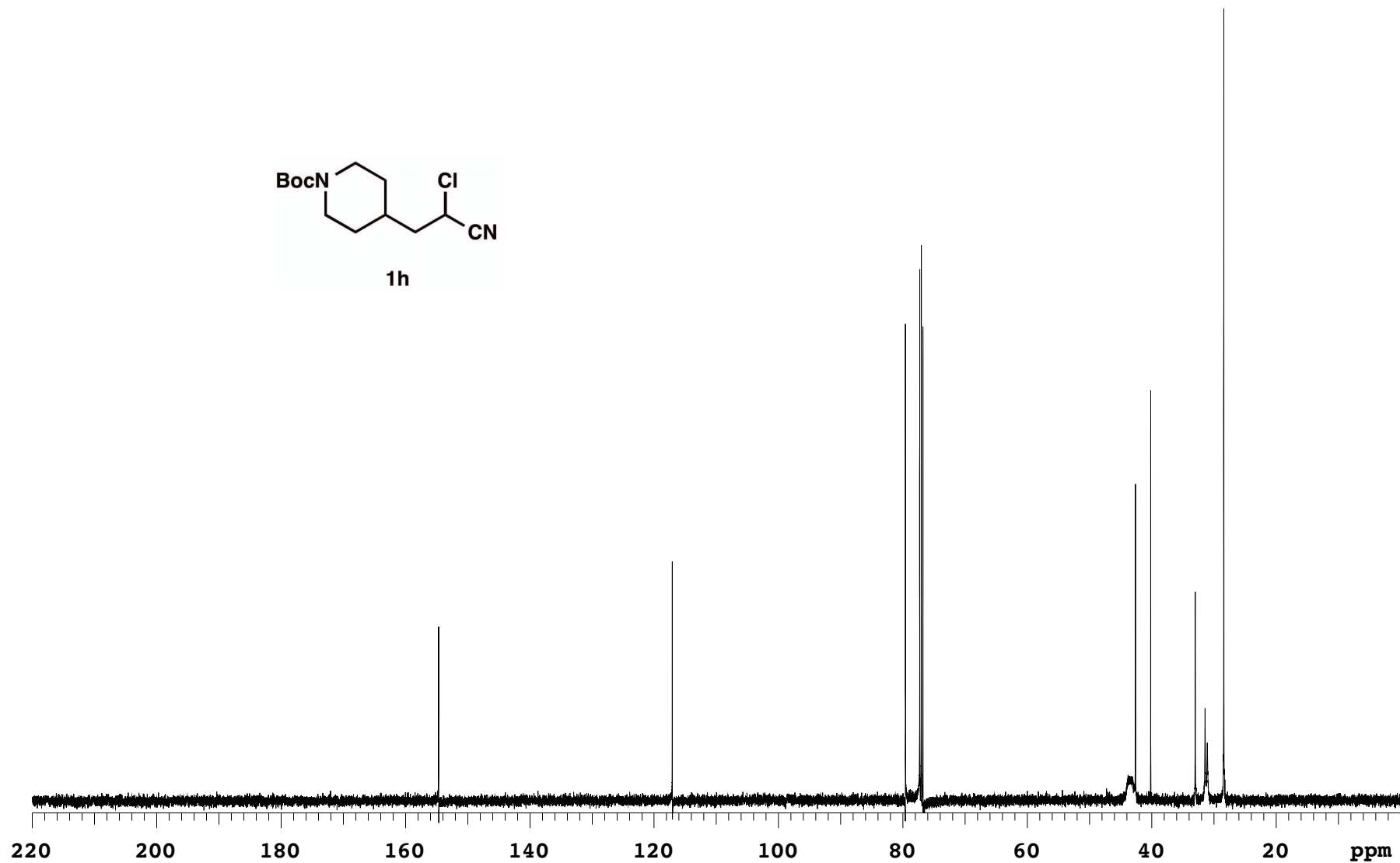
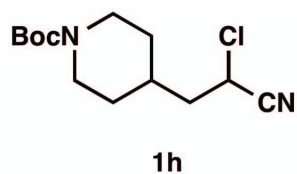
Study owner nkadunce
Operator autouser











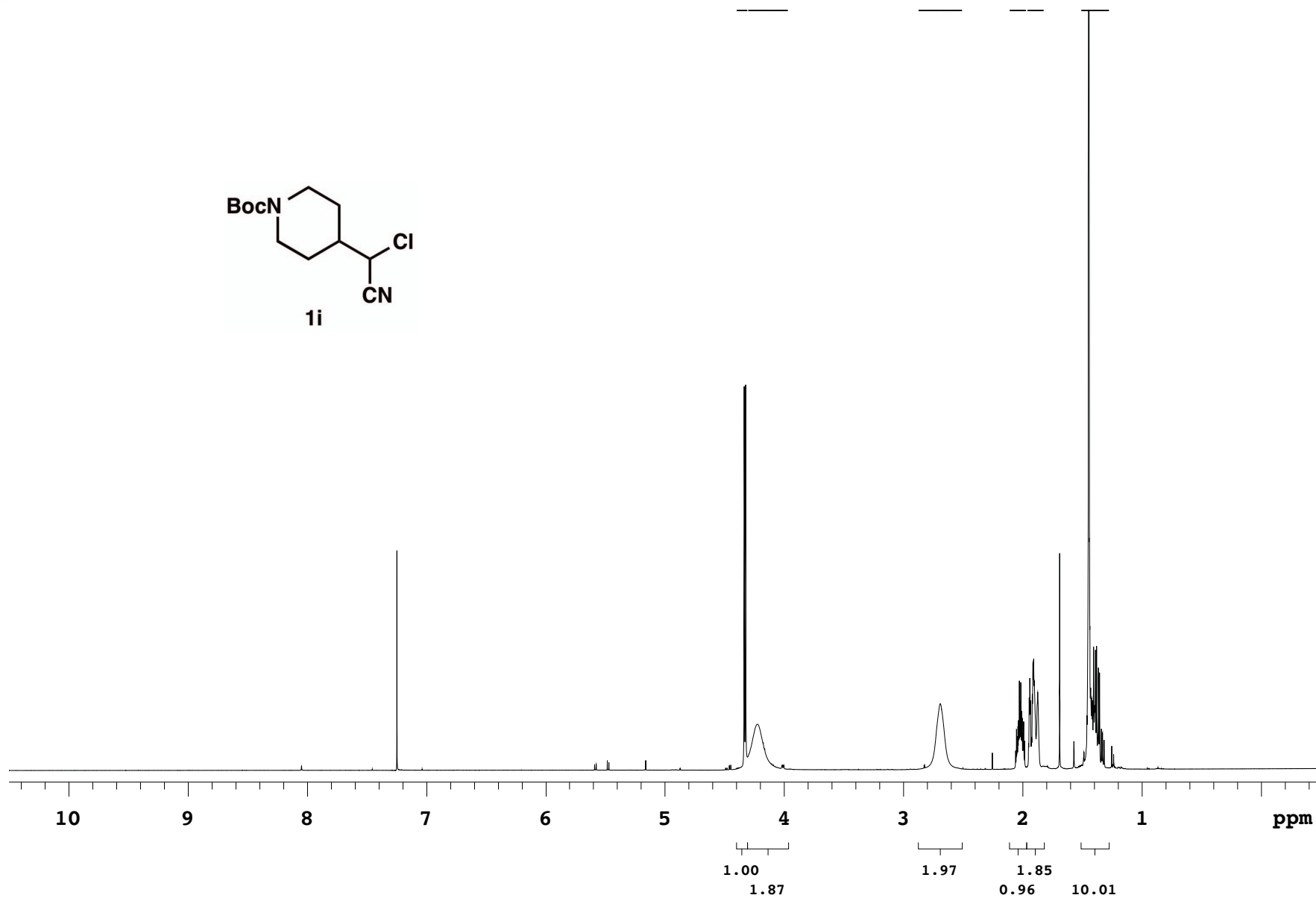
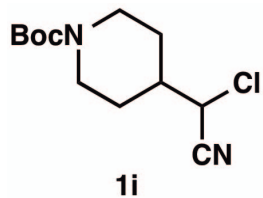
NTK-IV-BocPipClCN

Sample Name NTK-IV-BocPipClCN
Date collected 2015-05-20

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



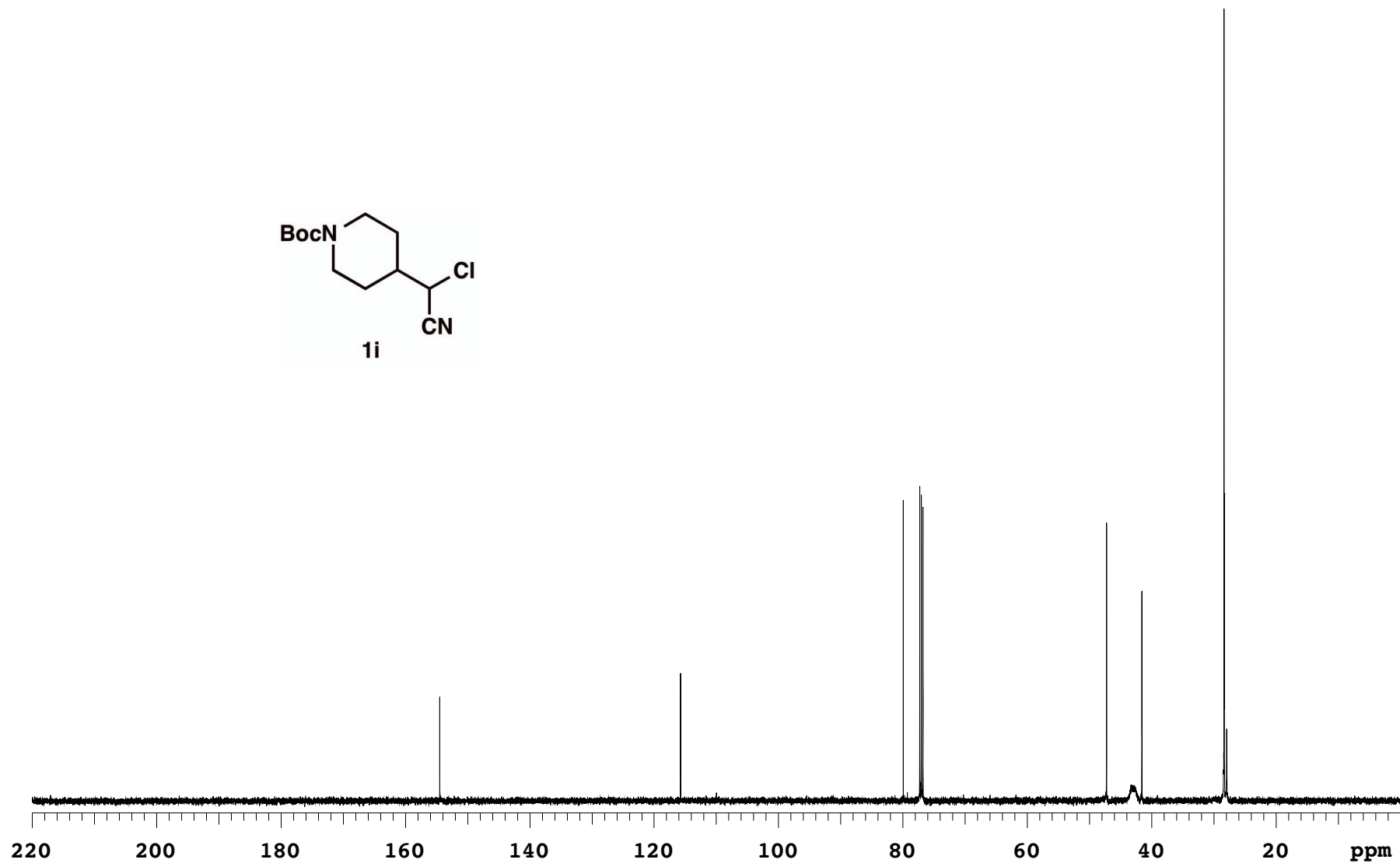
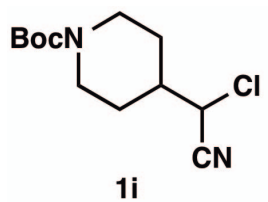
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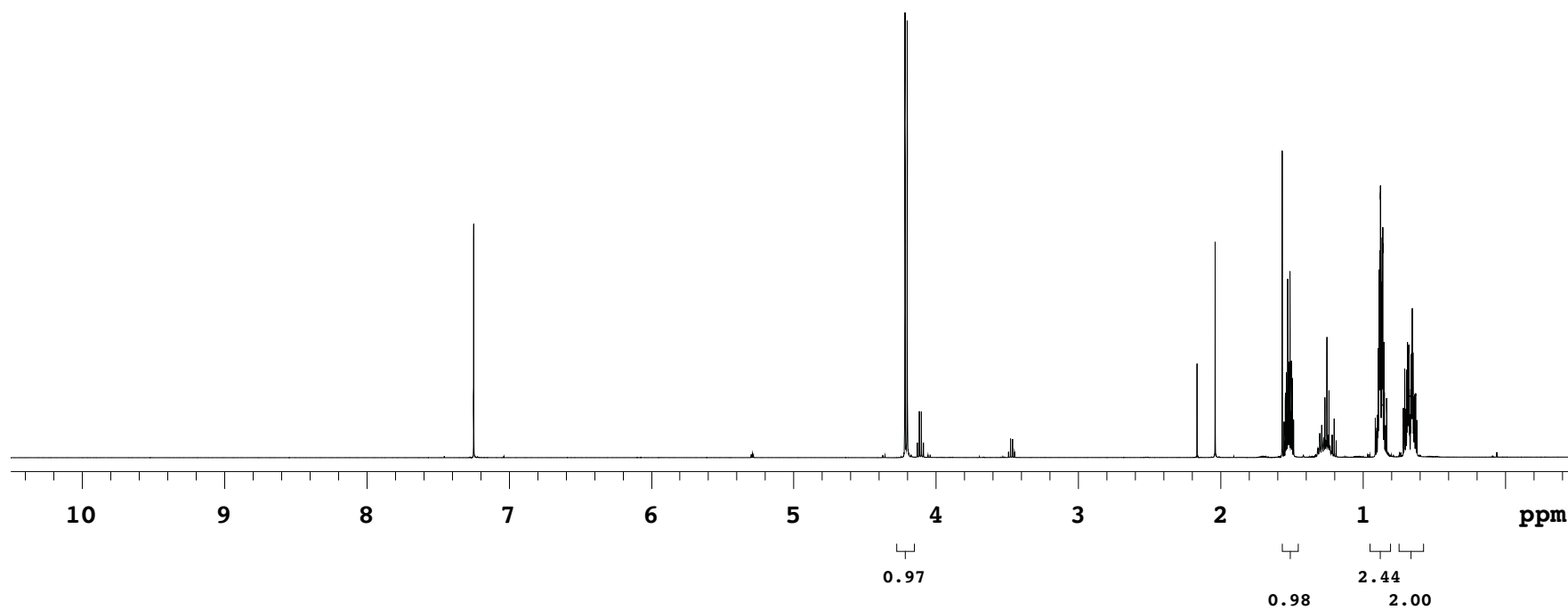
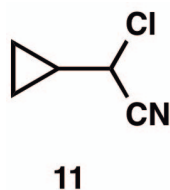
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Date collected 2015-05-20

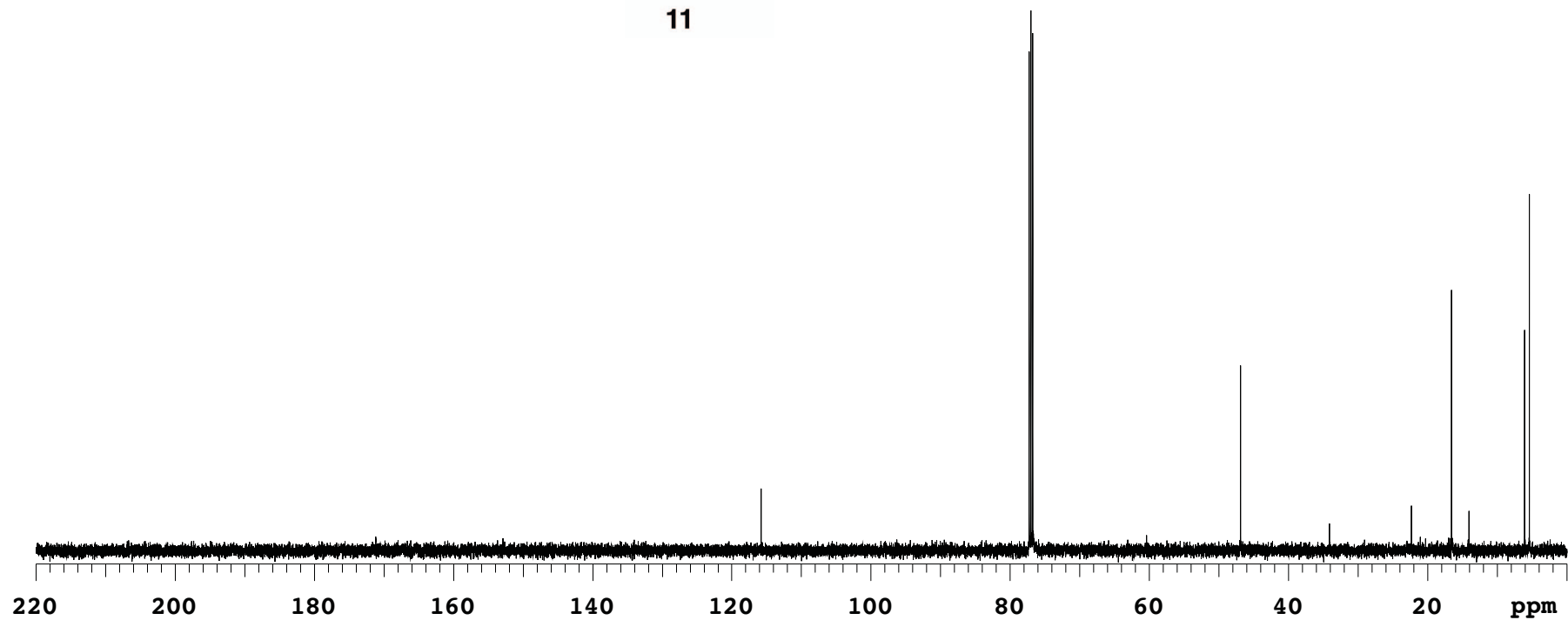
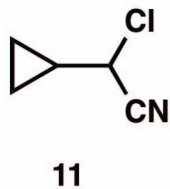
Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser







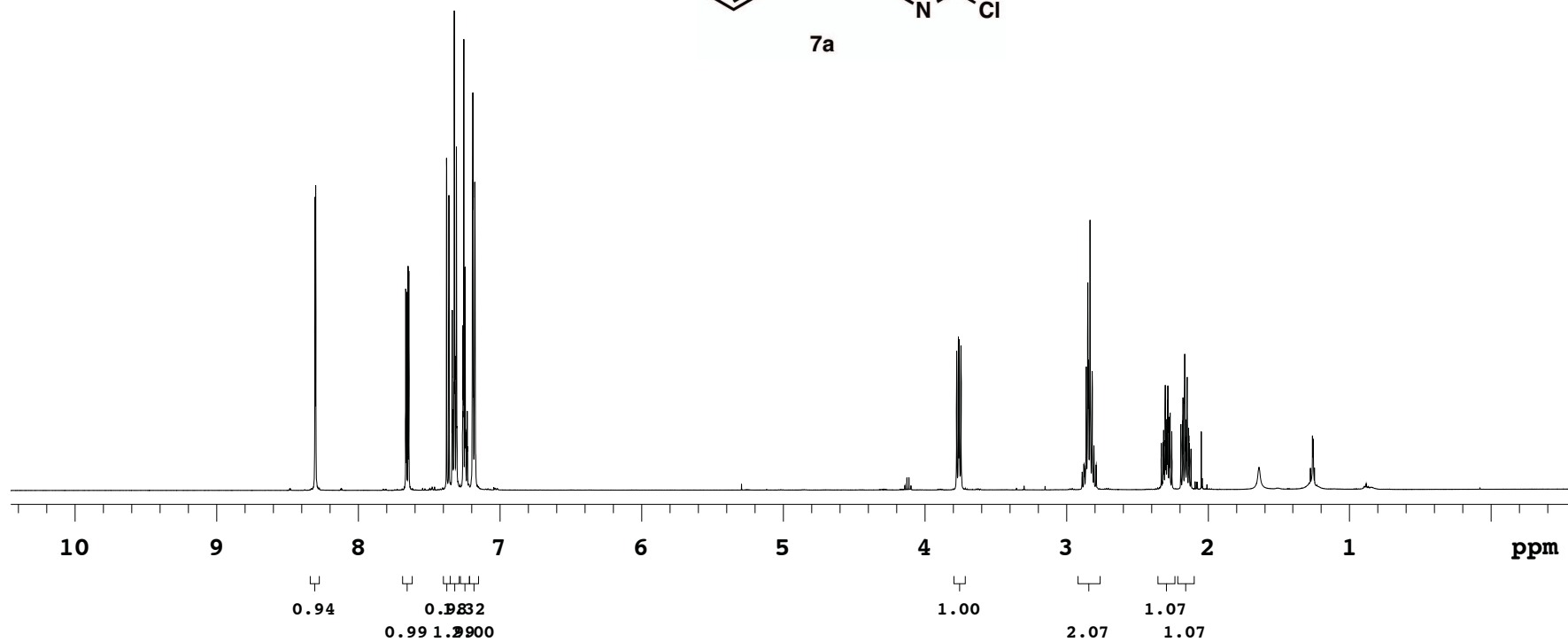
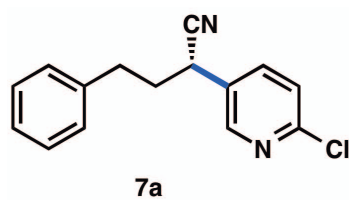
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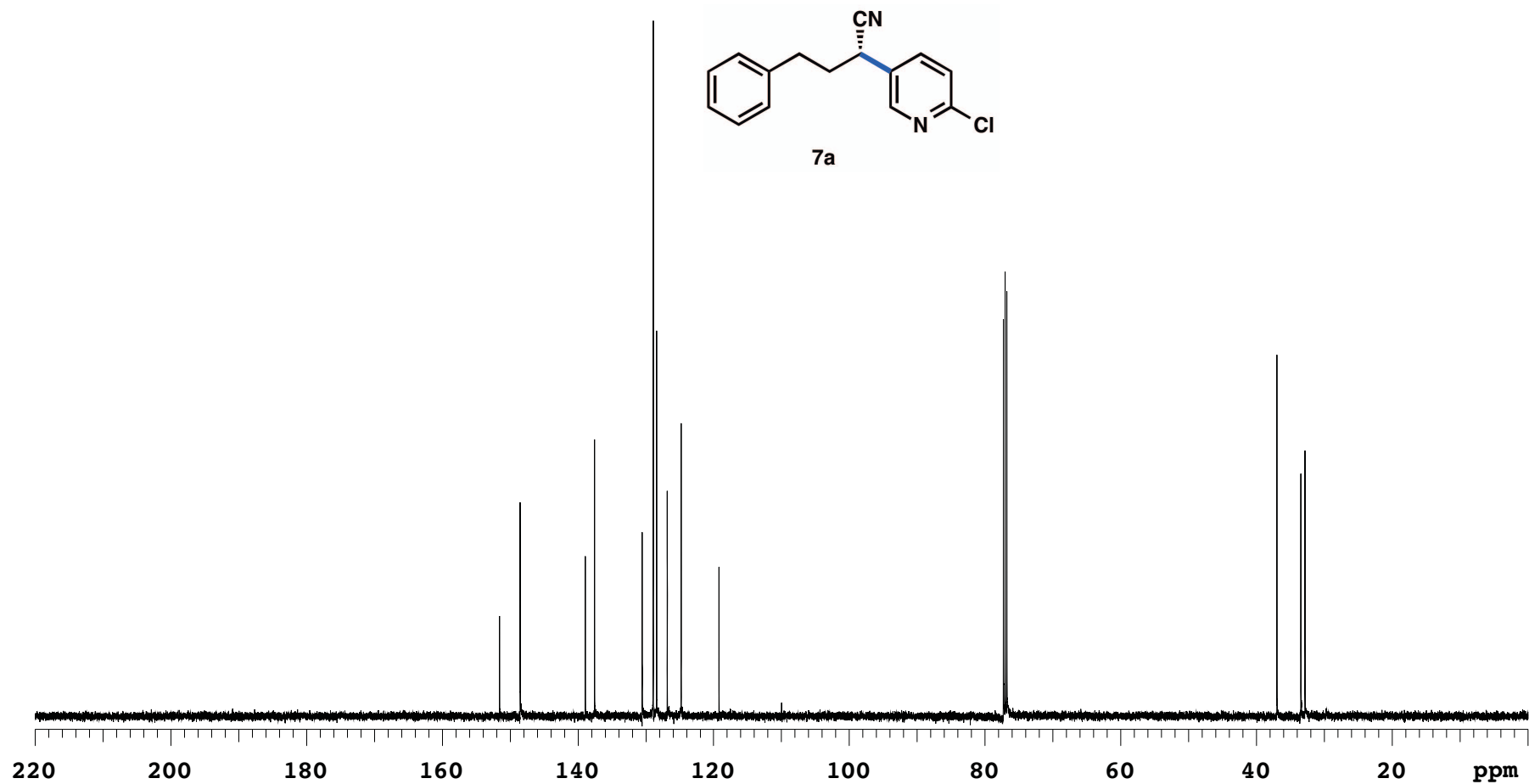
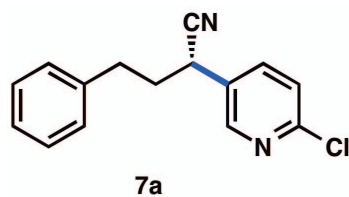
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Date collected 2015-05-17

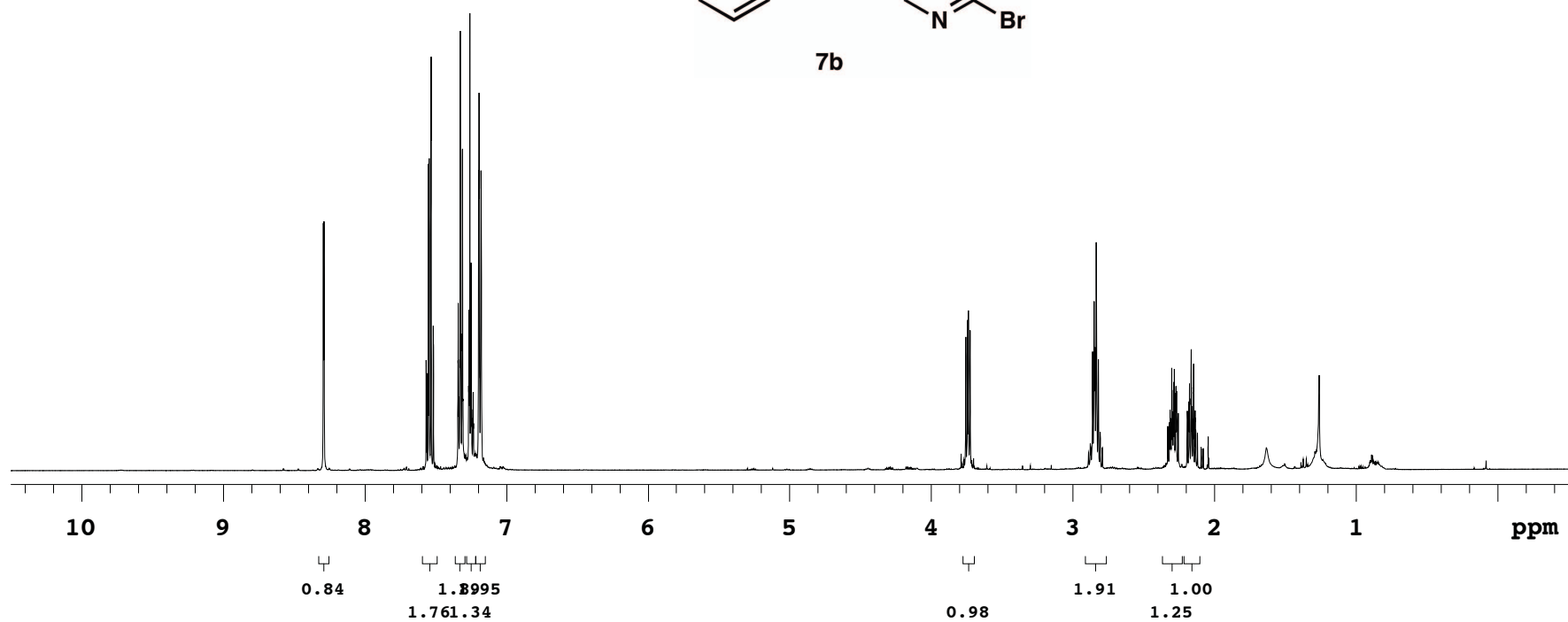
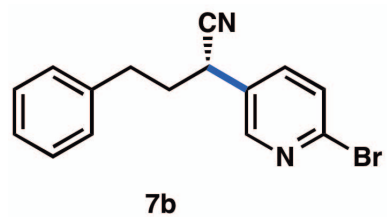
Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser







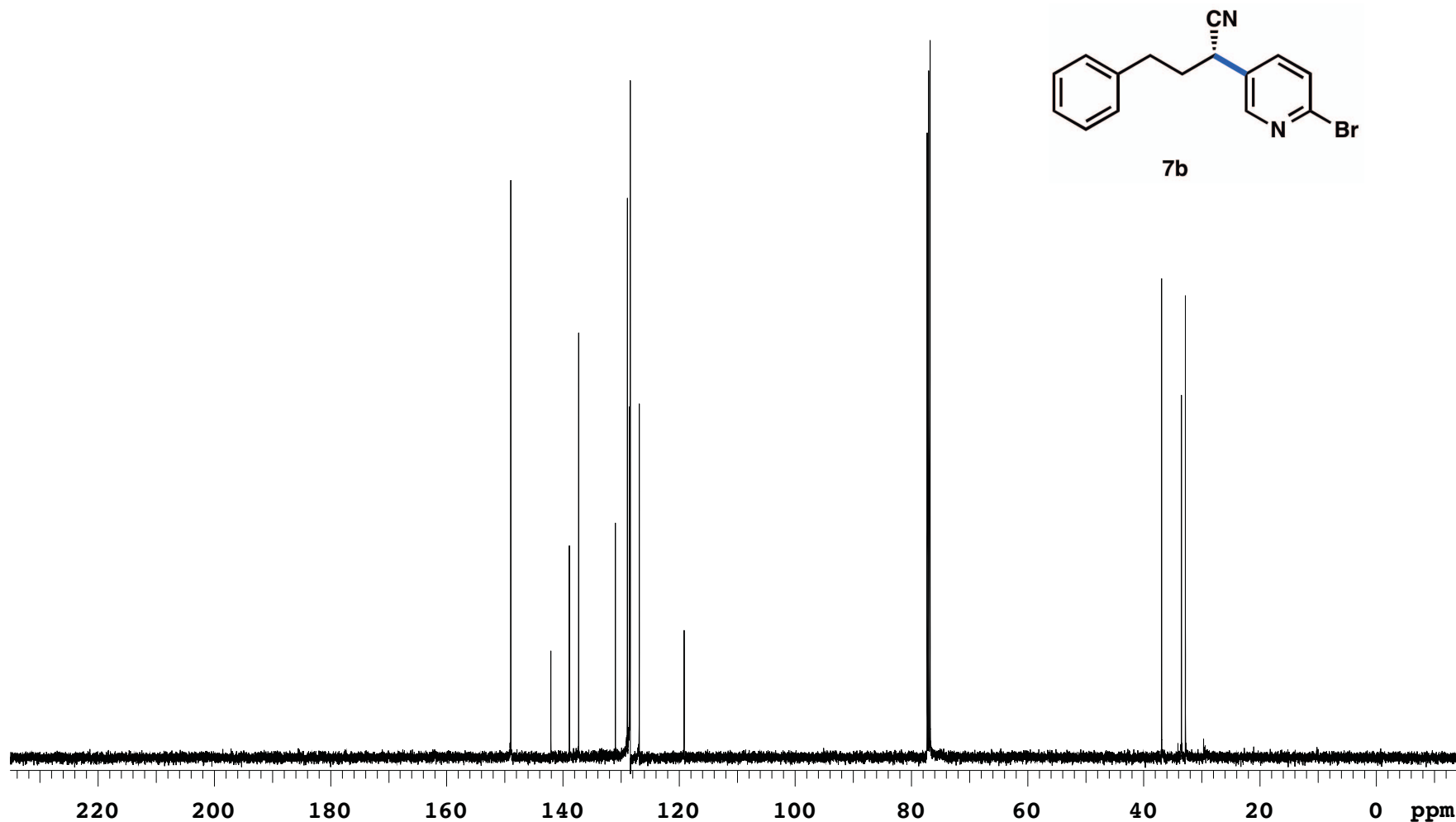
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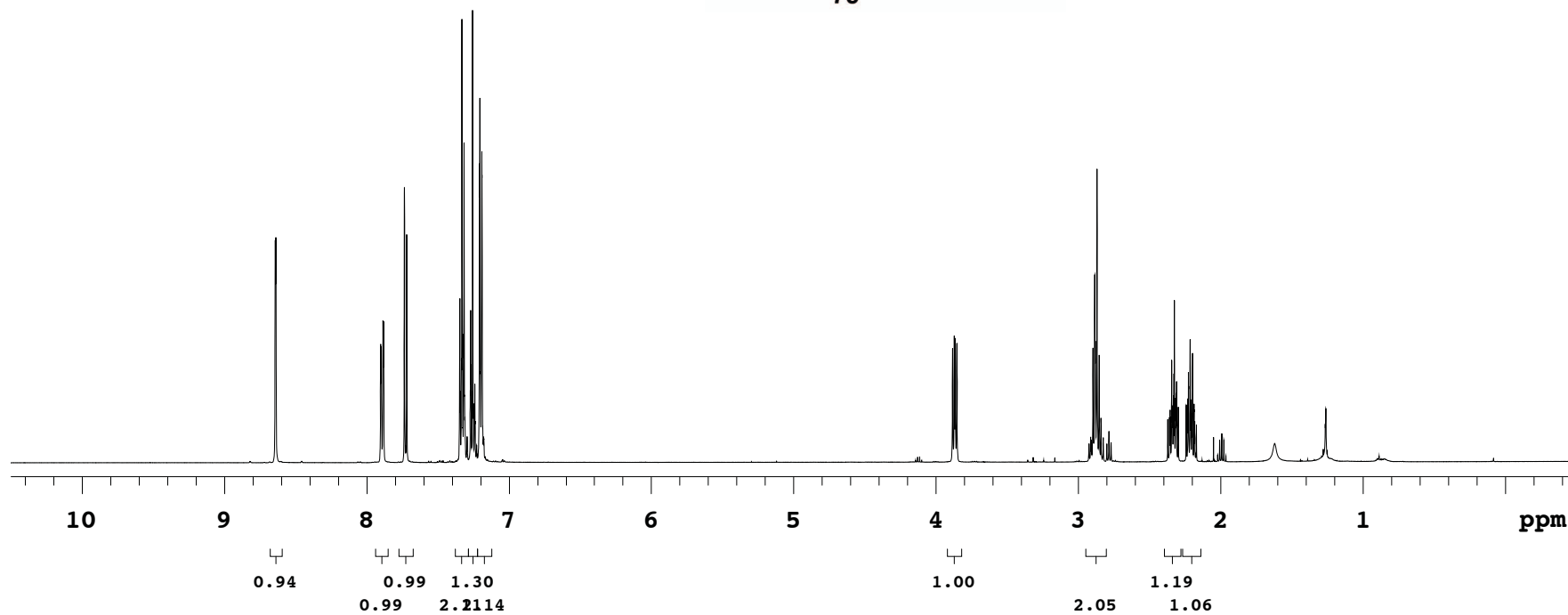
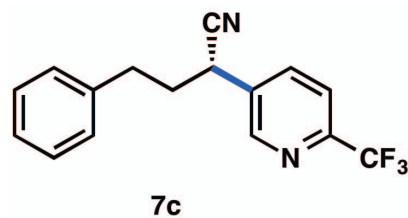
Sample Name NTK-IV-90-BrPyr
Date collected 2015-04-02

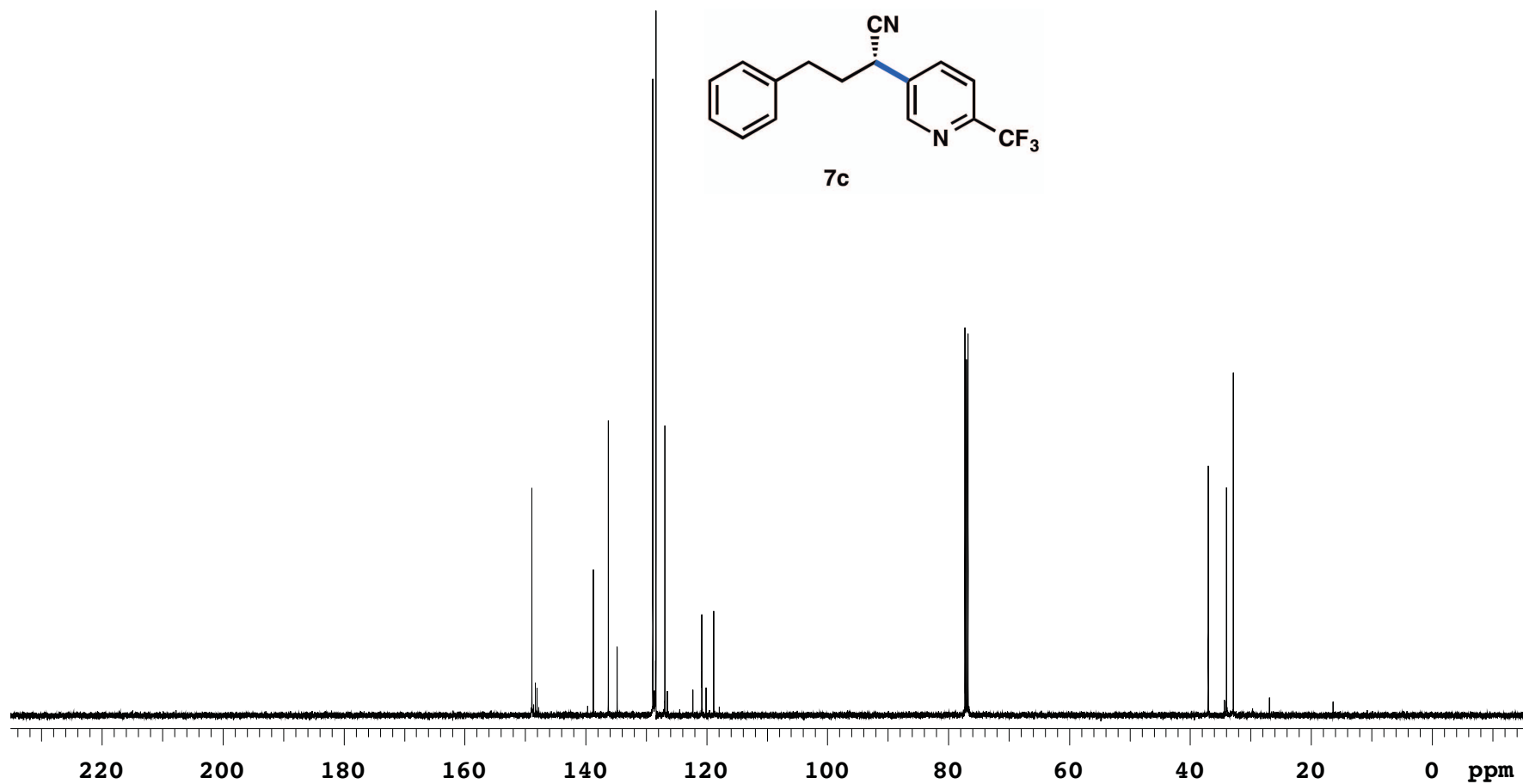
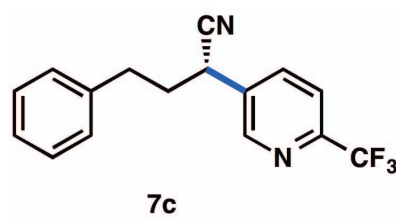
Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser







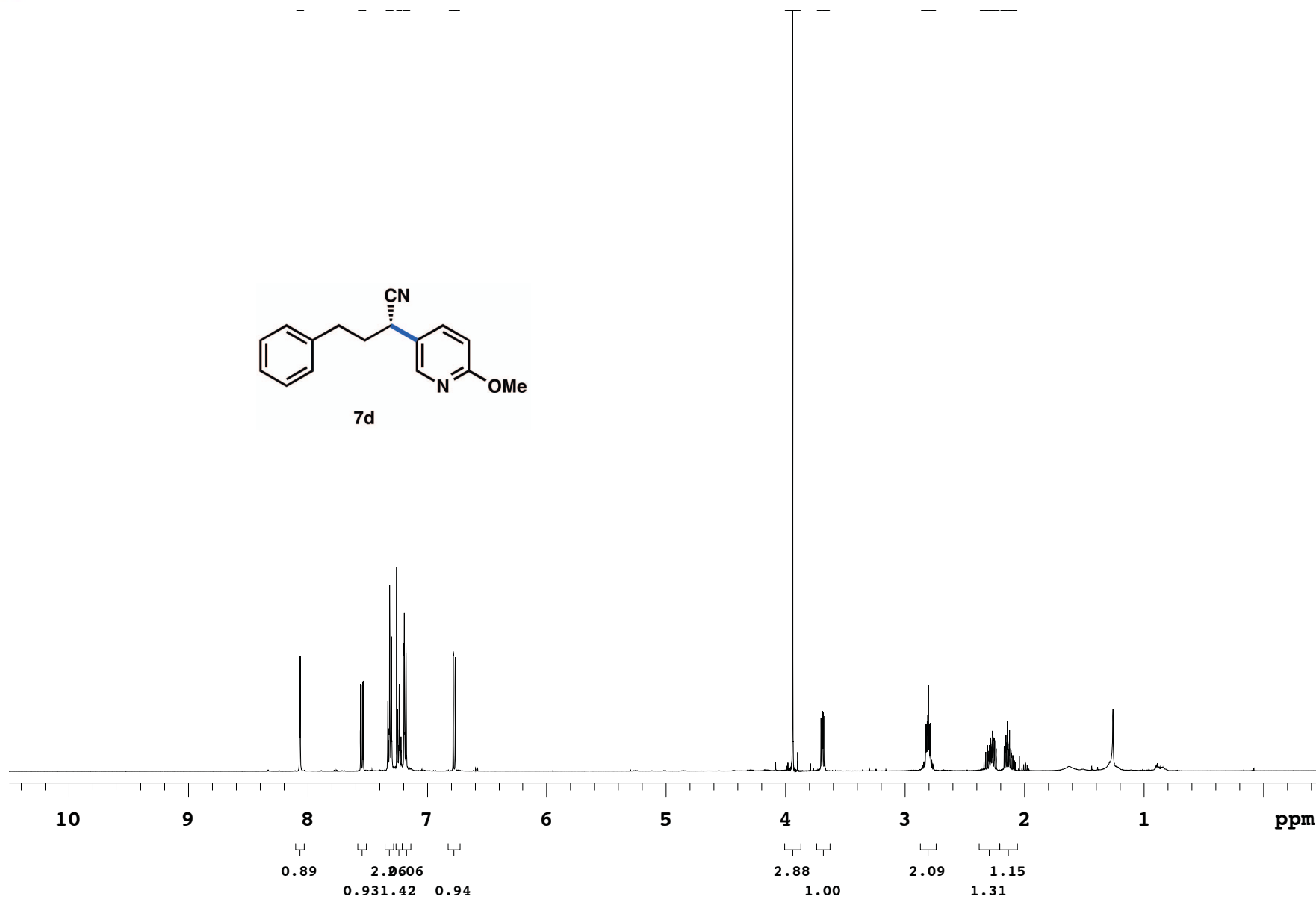
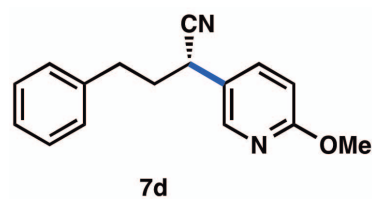
NTK-IV-94-OMe

Sample Name NTK-IV-94-OMe
Date collected 2015-04-08

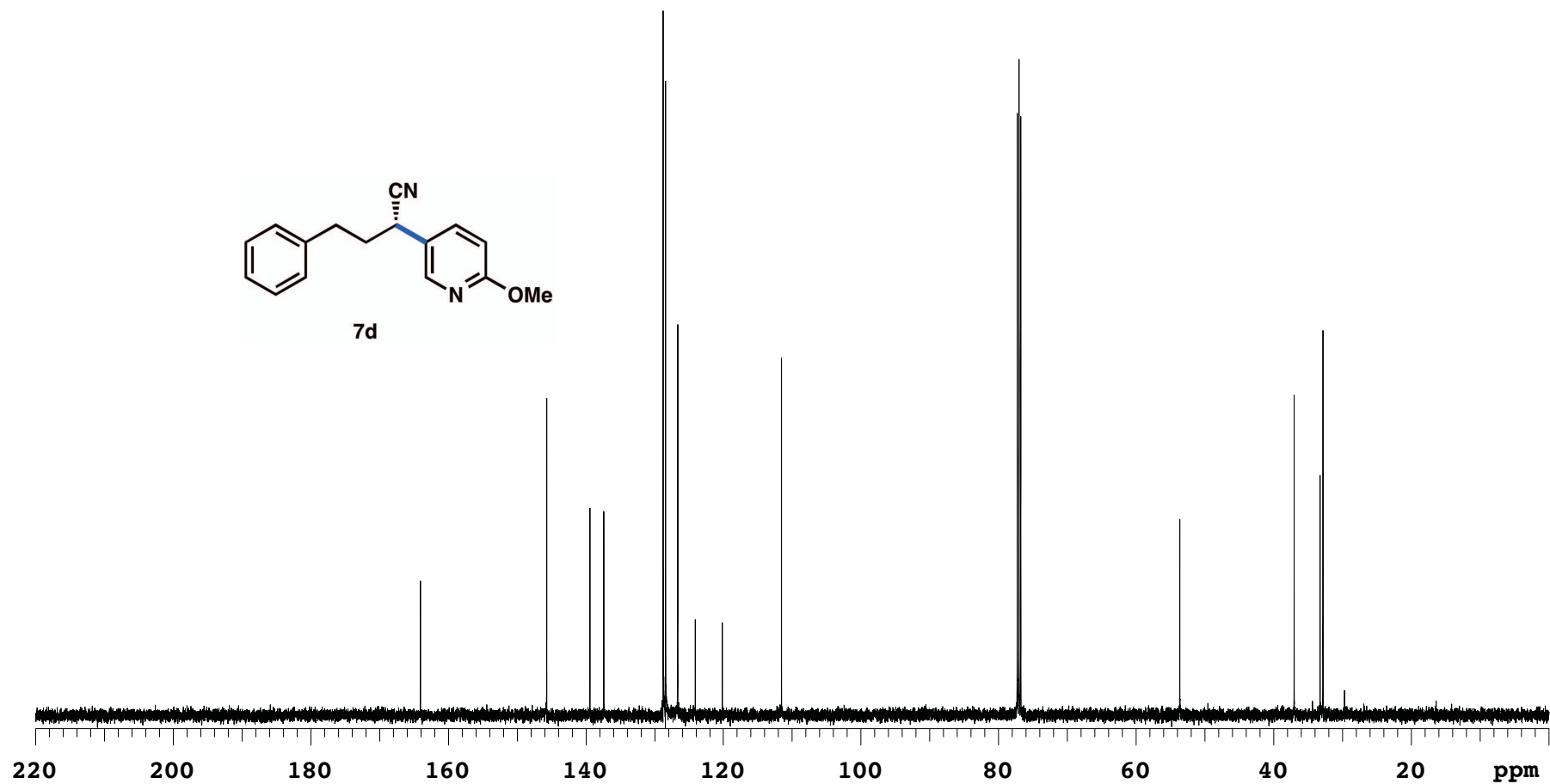
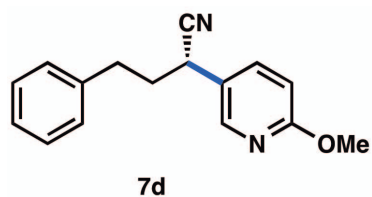
Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



Sample Name	NTK-IV-94-OMe	Pulse sequence	CARBON	Temperature	25	Study owner	nkadunce
Date collected	2015-04-08	Solvent	cdcl3	Spectrometer	-vnmrs400	Operator	autouser



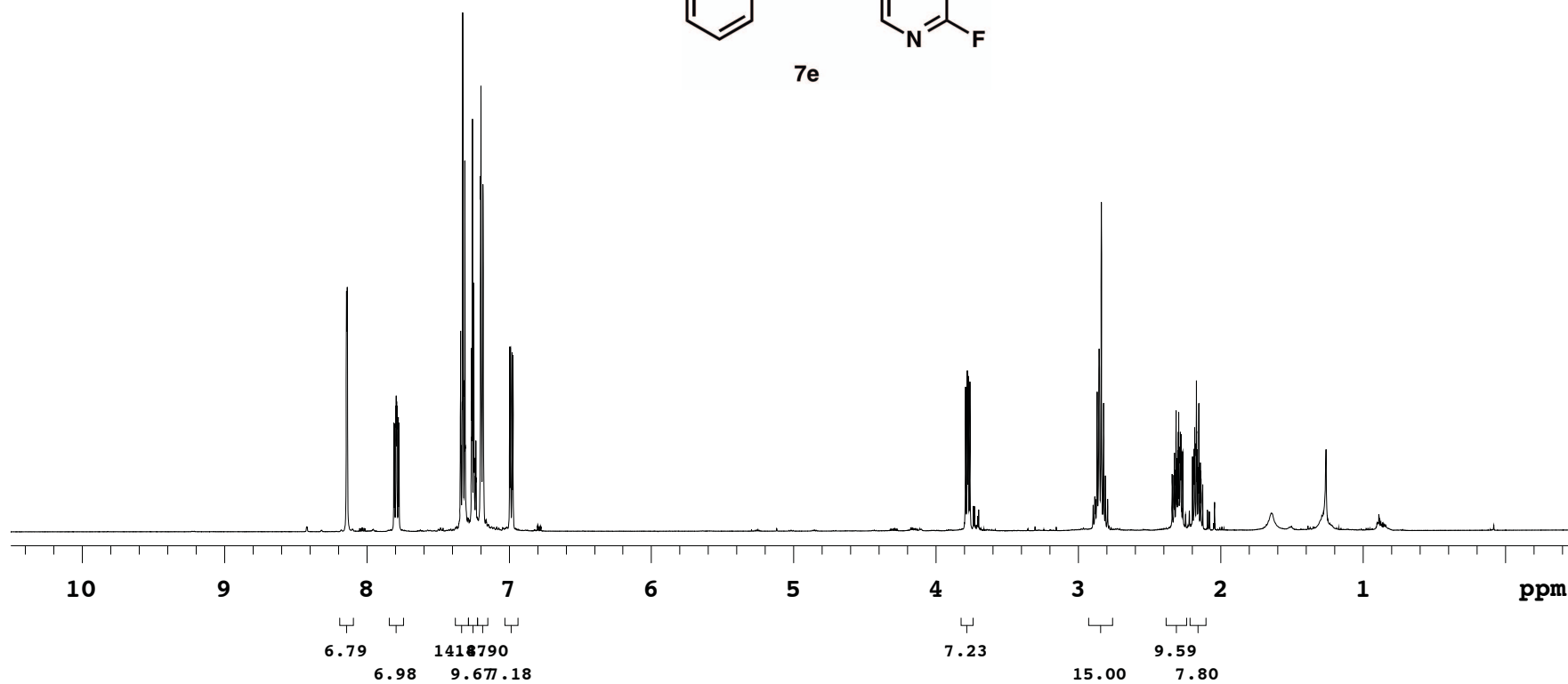
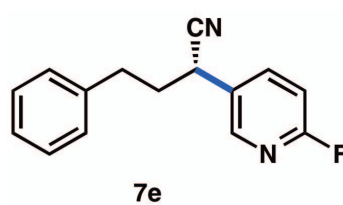
NTK-IV-93-5Fpyridine

Sample Name NTK-IV-93-5Fpyridine
Date collected 2015-04-07

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



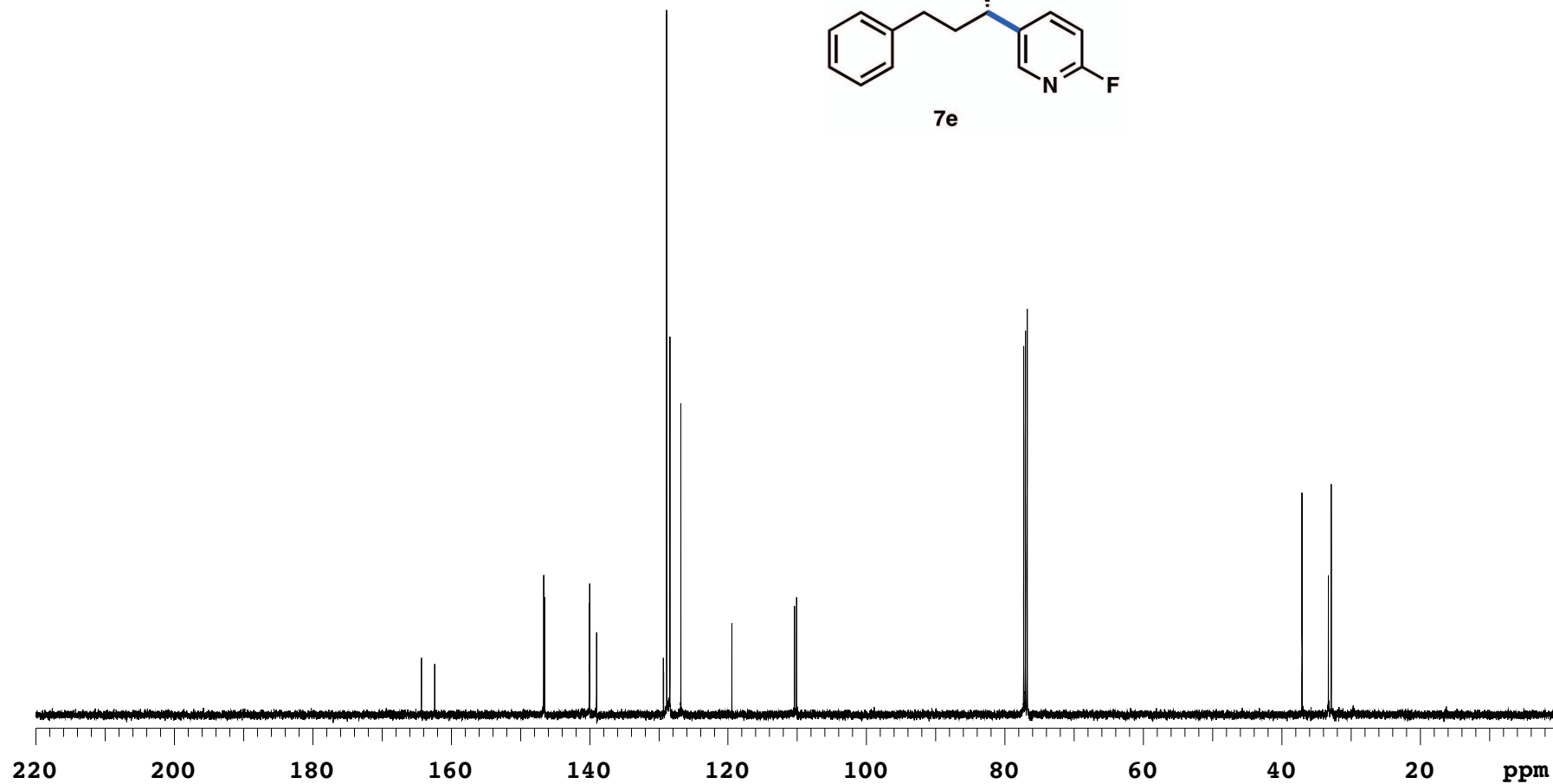
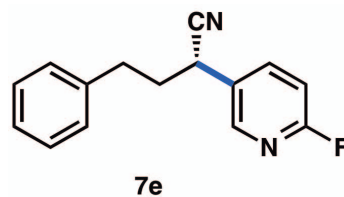
NTK-IV-93-5Fpyridine

Sample Name NTK-IV-93-5Fpyridine
Date collected 2015-04-07

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



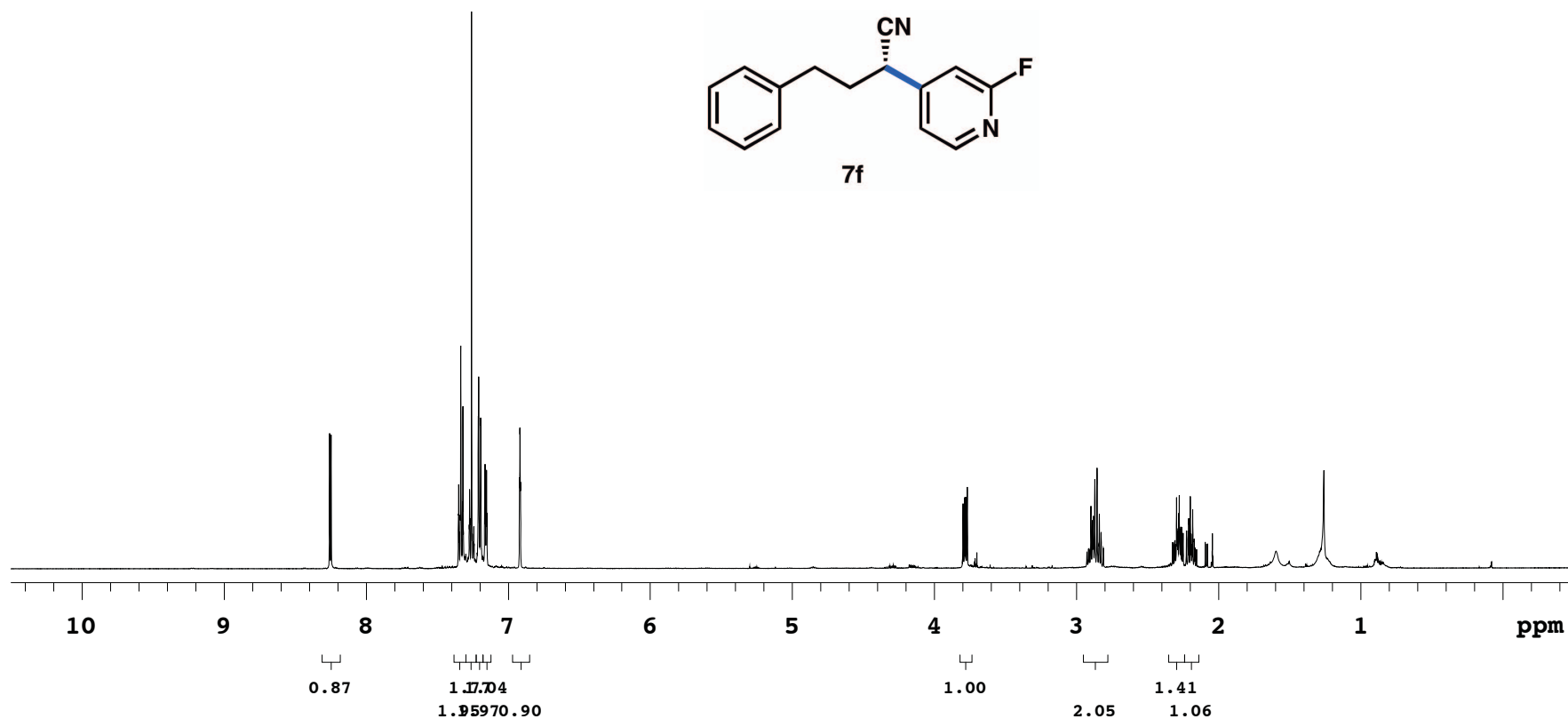
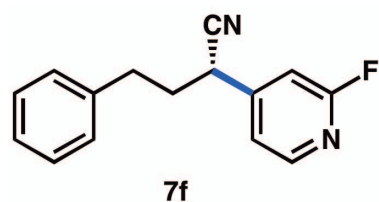
NTK-IV-95-4F

Sample Name NTK-IV-95-4F
Date collected 2015-04-09

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



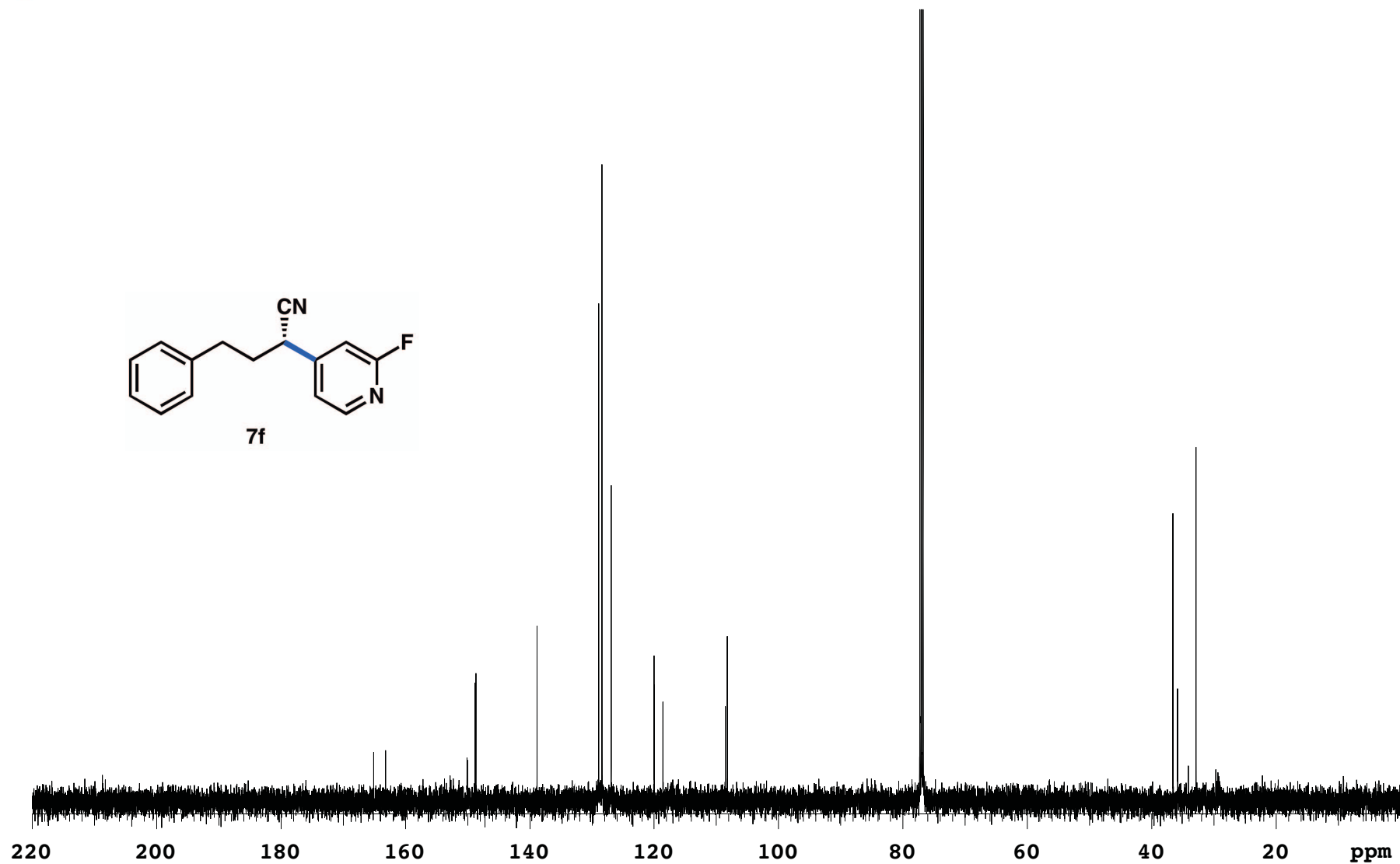
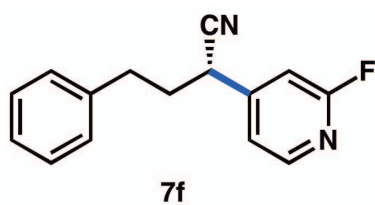
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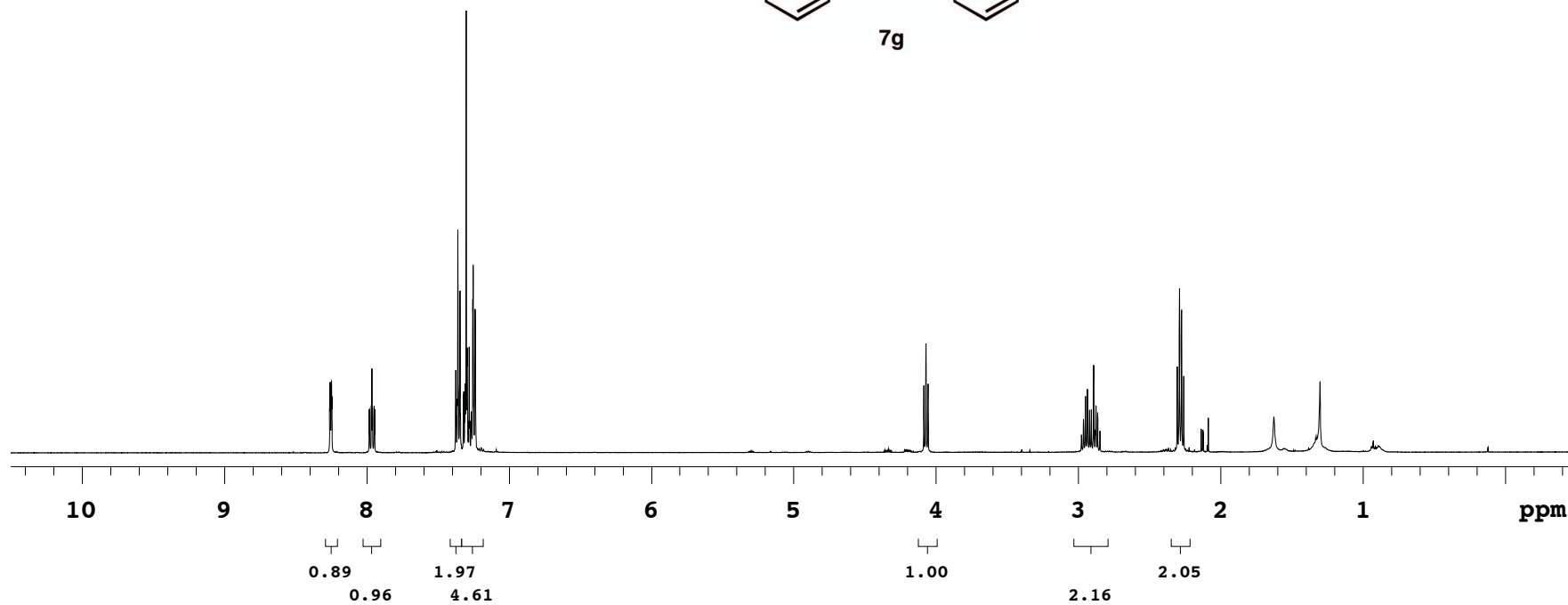
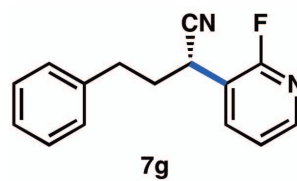
Sample Name NTK-IV-93-4FPyridine
Date collected 2015-04-07

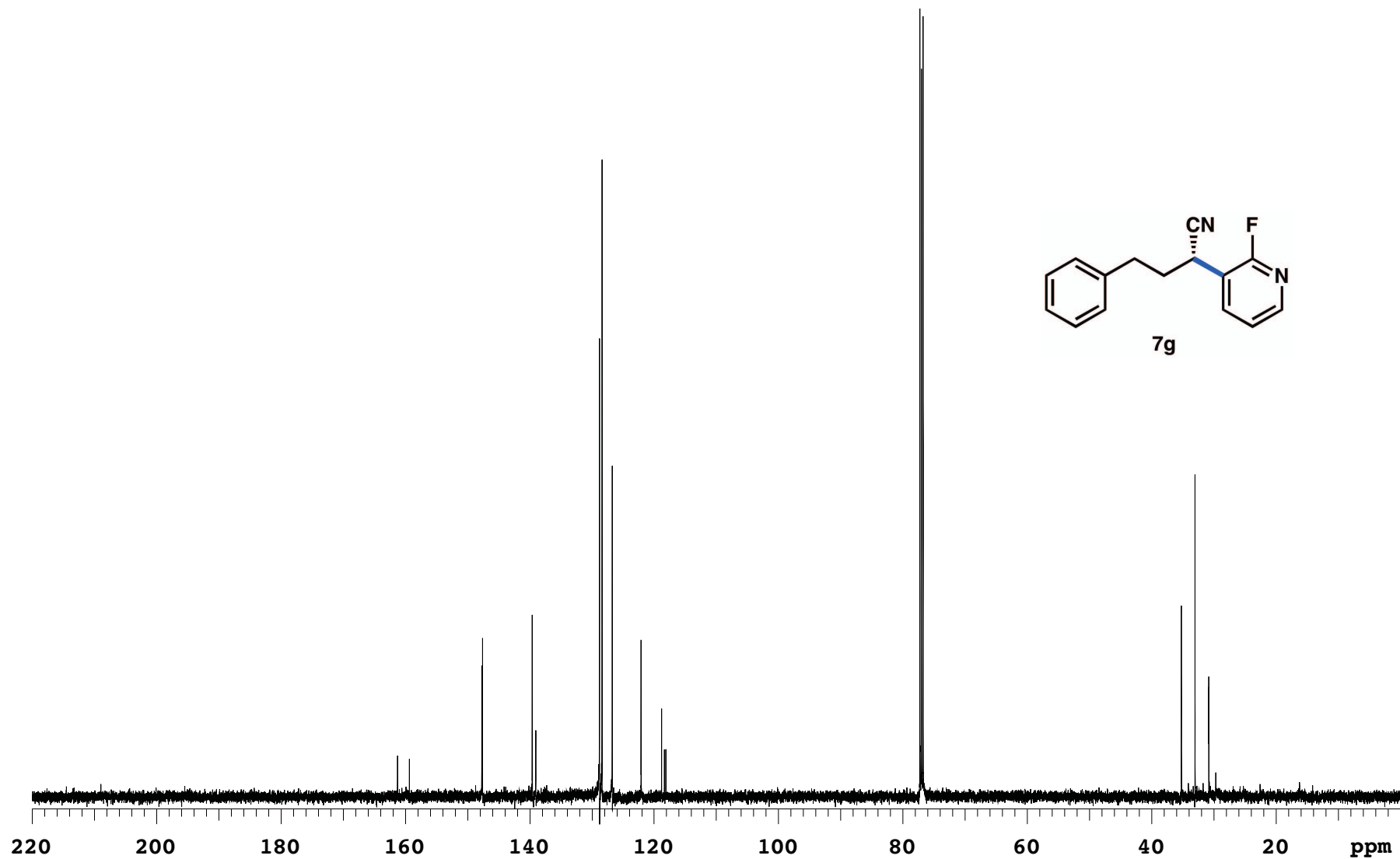
Pulse sequence CARBON
Solvent cdcl3

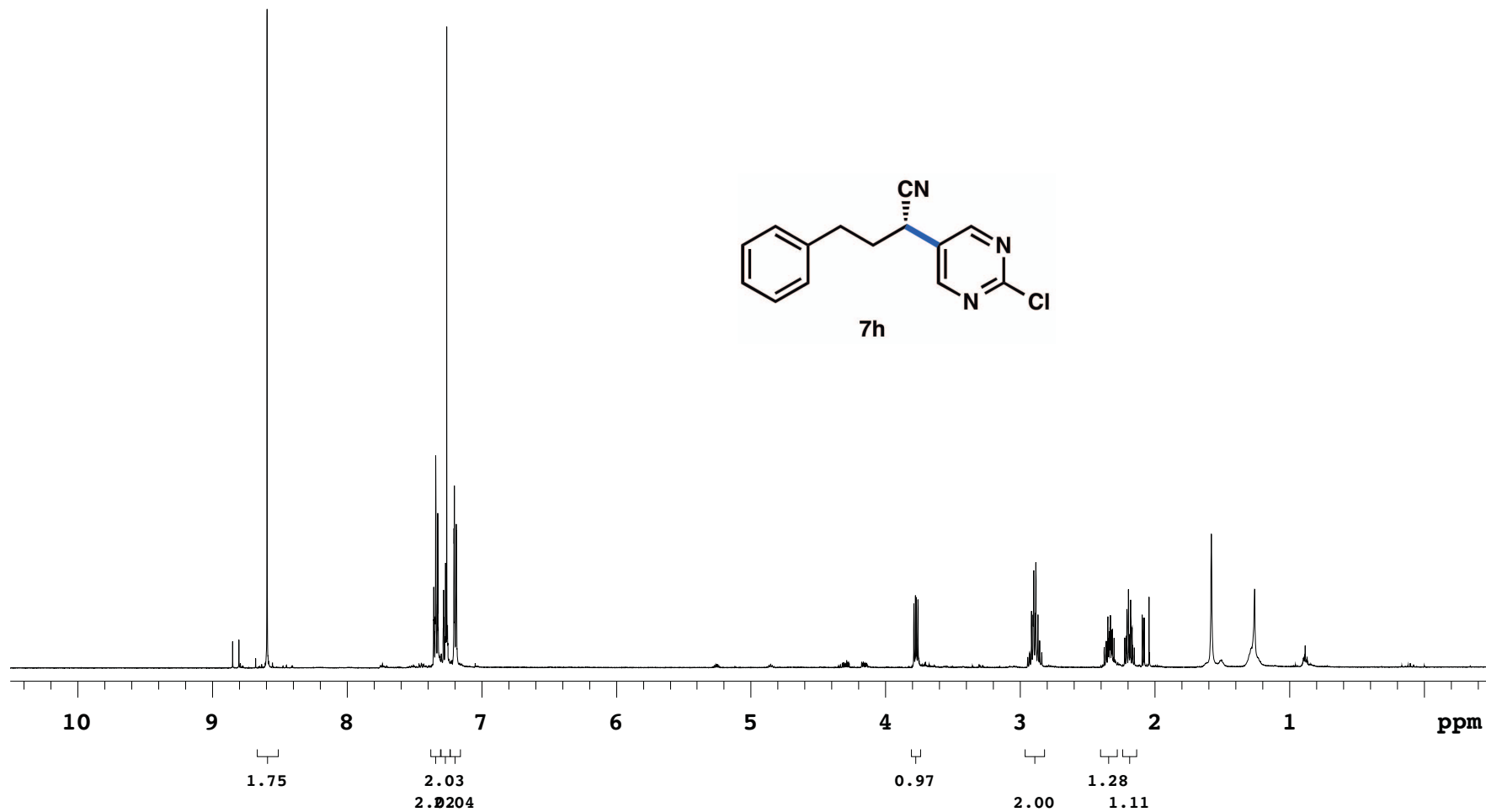
Temperature 25
Spectrometer -vnmrs400

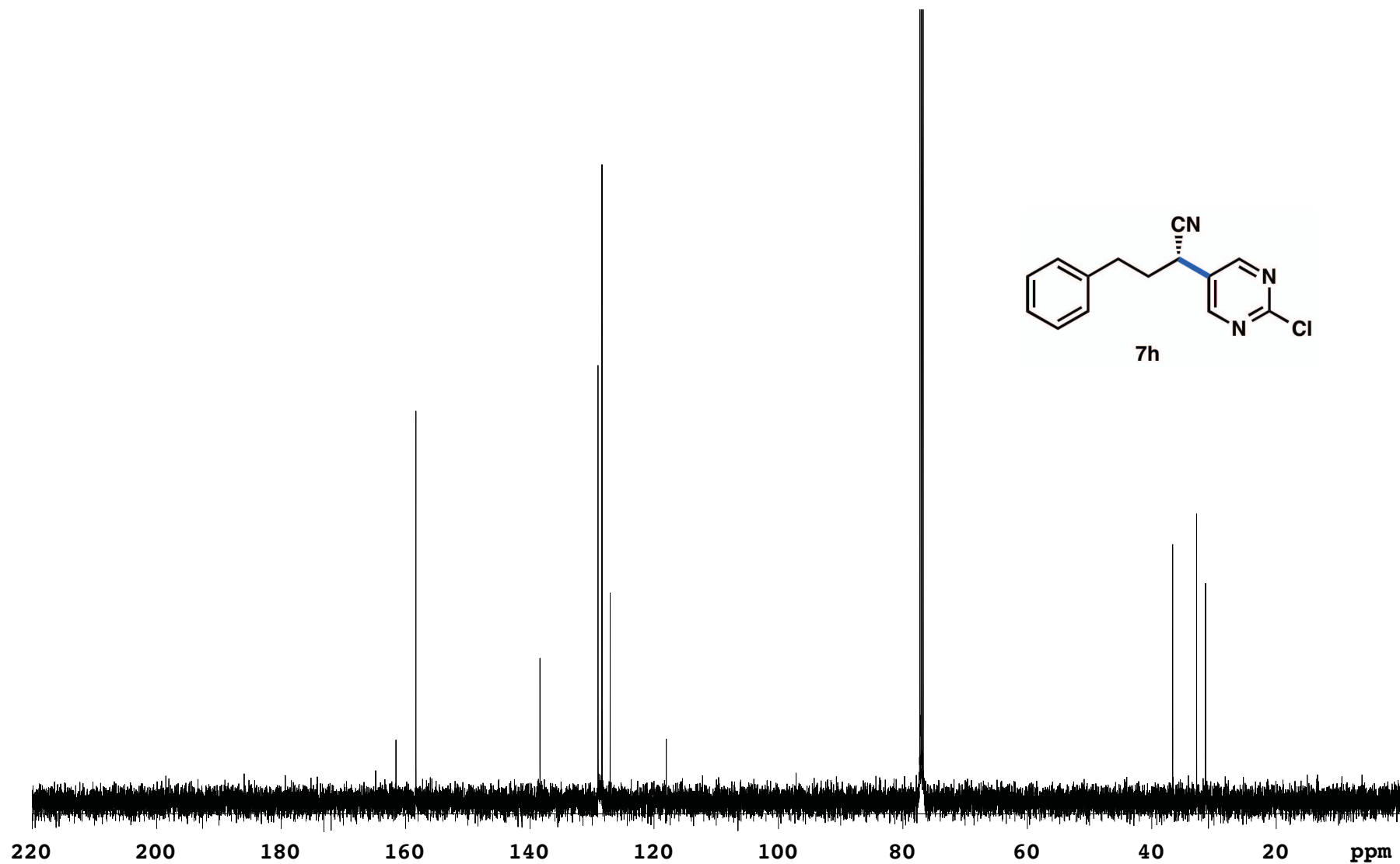
Study owner nkadunce
Operator autouser









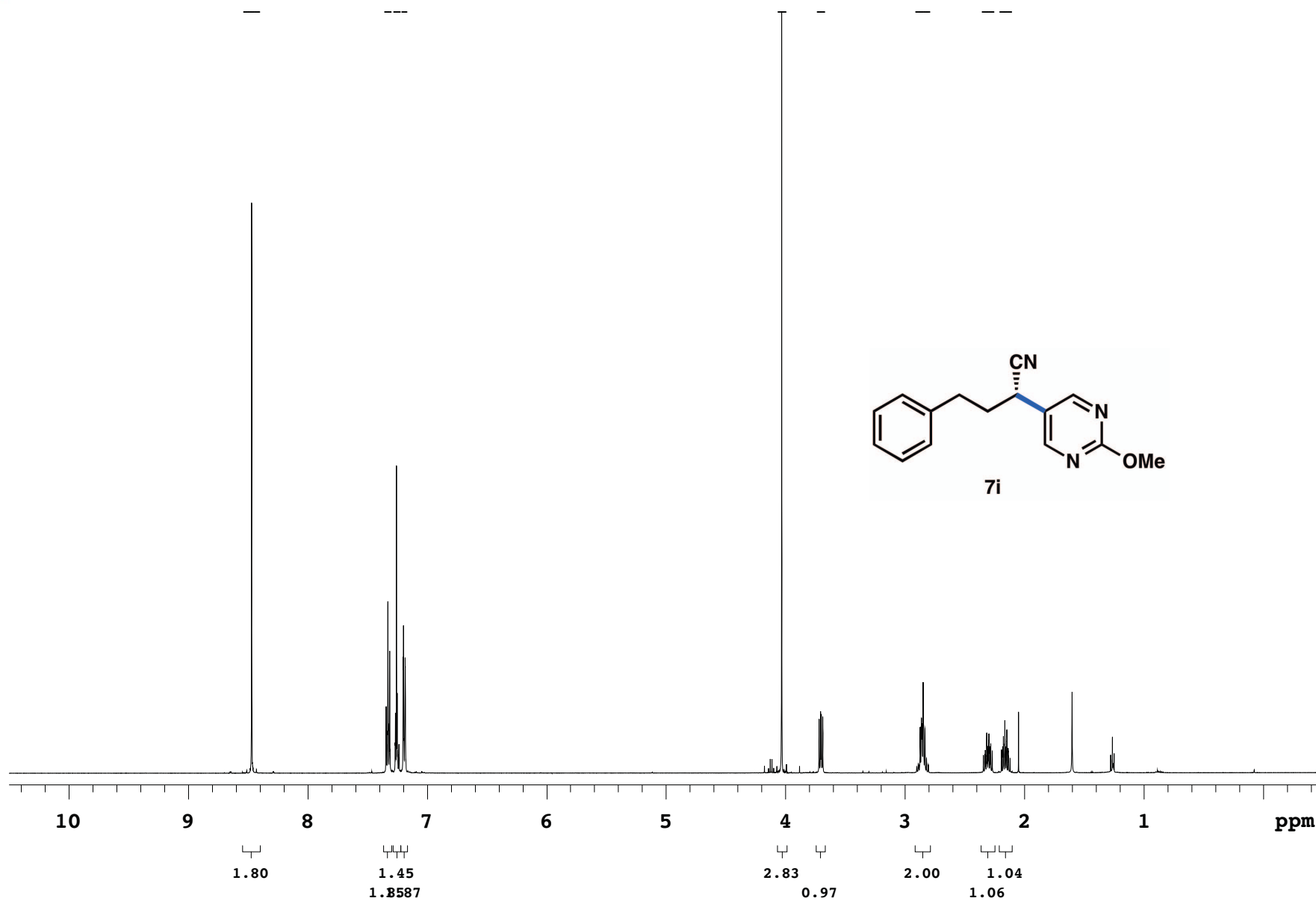


NTK-IV-96-OMePyrimidine

Sample Name NTK-IV-96-OMePyrimidine Pulse sequence PROTON
Date collected 2015-04-12 Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser

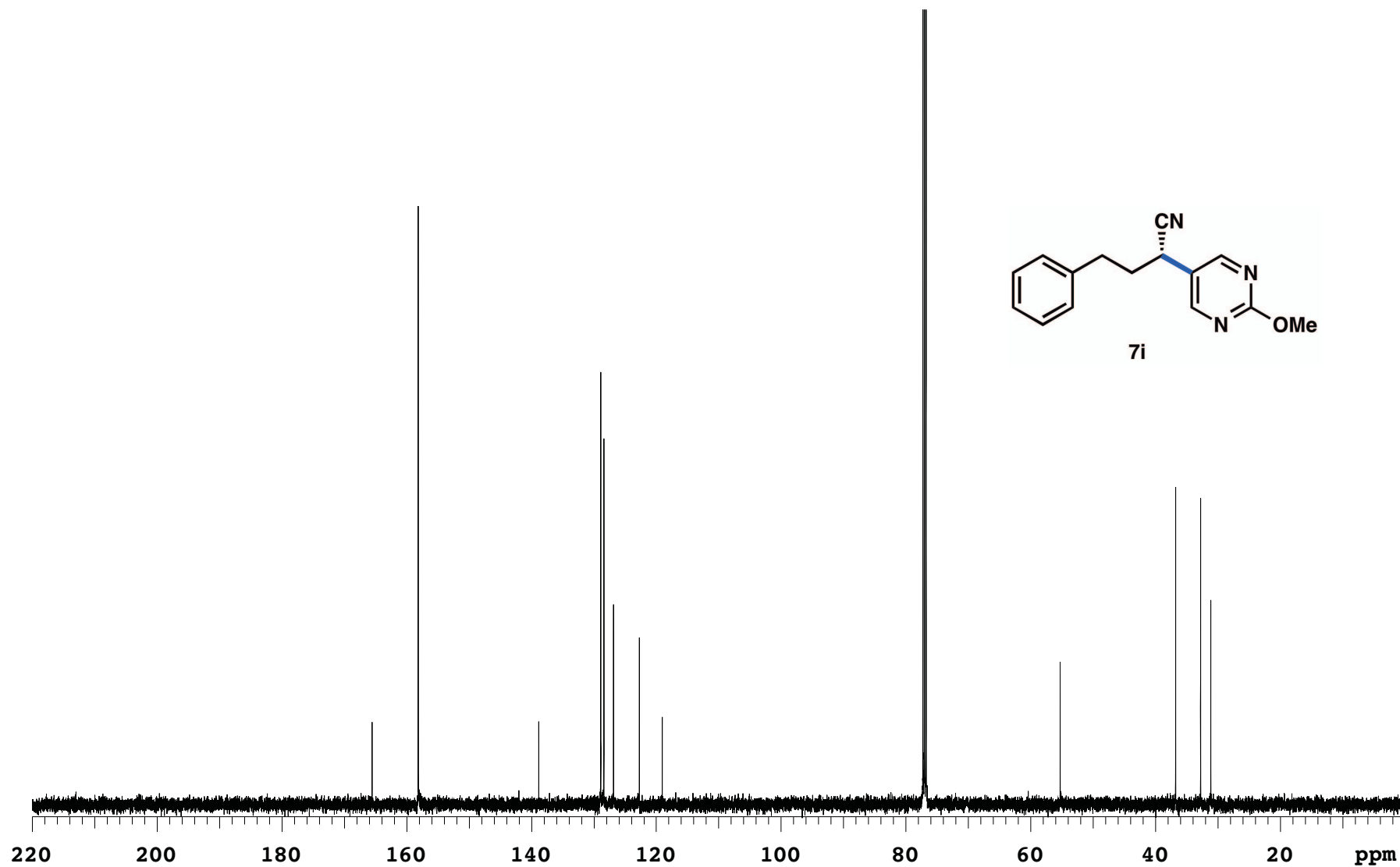


NTK-IV-96-OMePyrimidine

Sample Name NTK-IV-96-OMePyrimidine Pulse sequence CARBON
Date collected 2015-04-12 Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



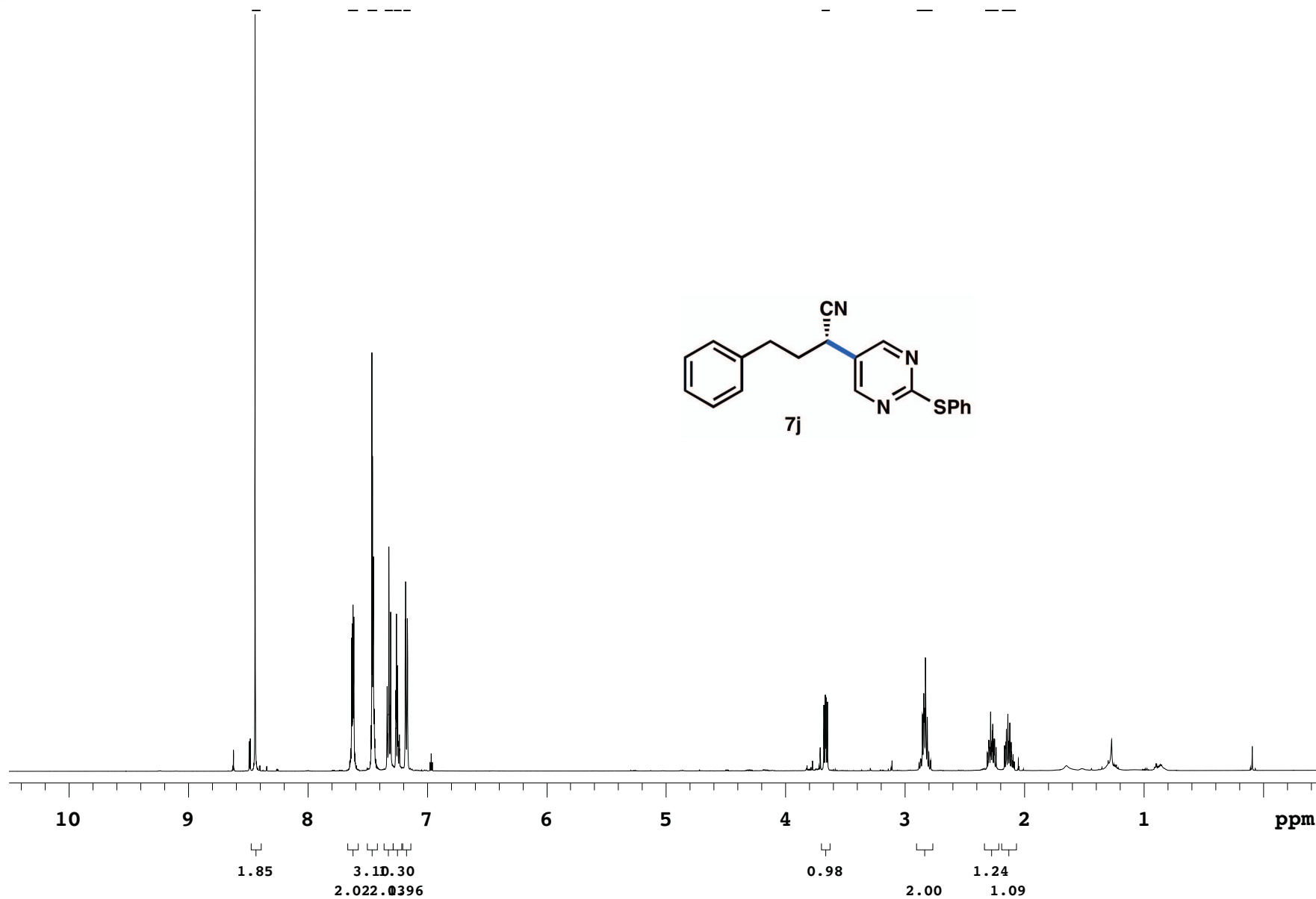
NTK-IV-92-SPhPyrimidine

Sample Name NTK-IV-92-SPhPyrimidine
Date collected 2015-04-06

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser

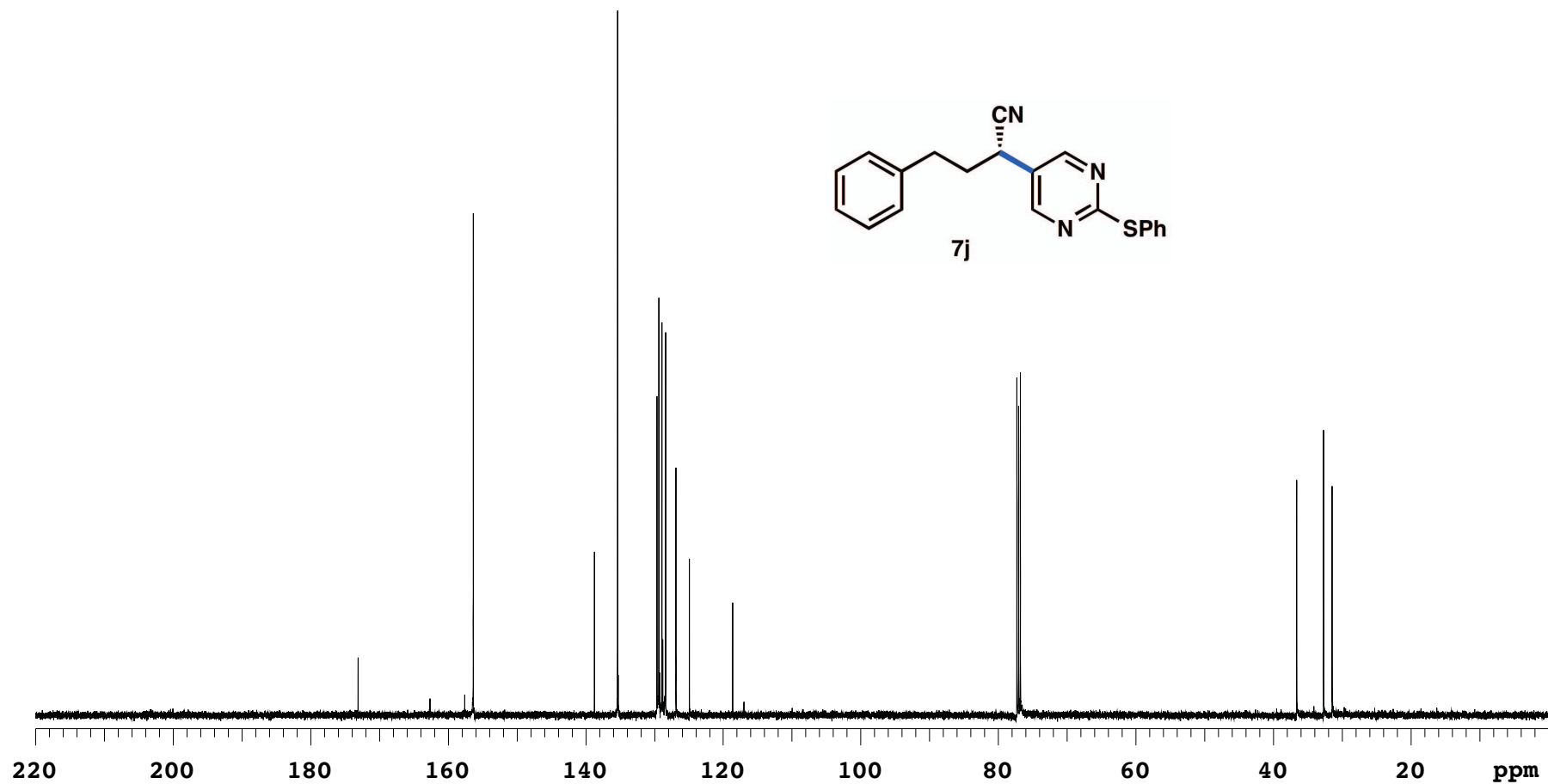


NTK-IV-92-SPhPyrimidine

Sample Name NTK-IV-92-SPhPyrimidine
Date collected 2015-04-06
Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



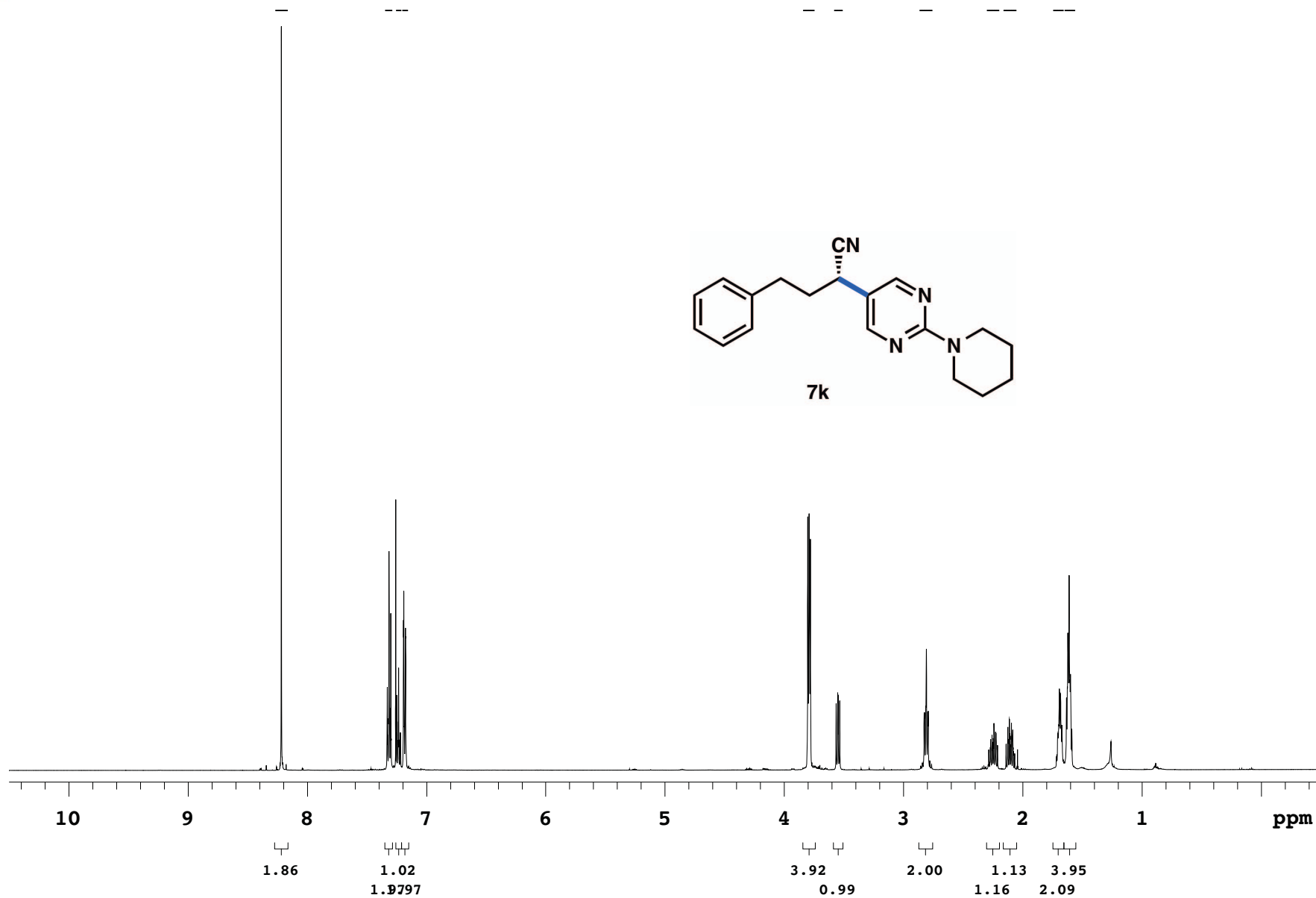
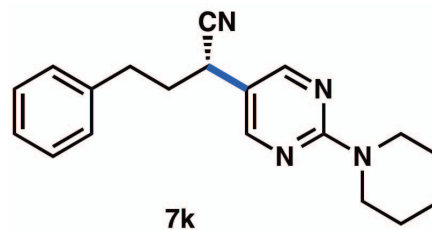
NTK-IV-91-piperidine

Sample Name NTK-IV-91-piperidine
Date collected 2015-04-03

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



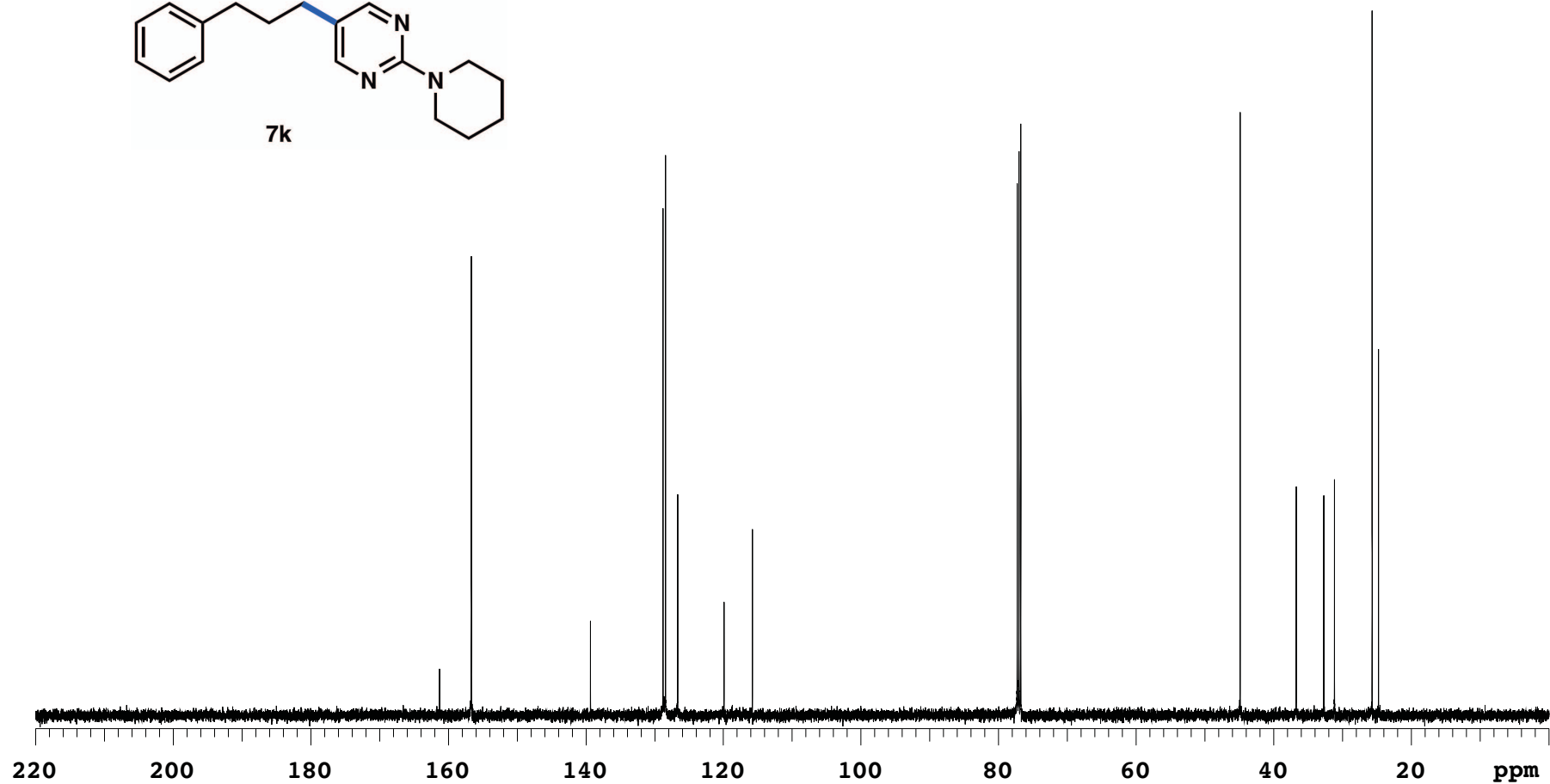
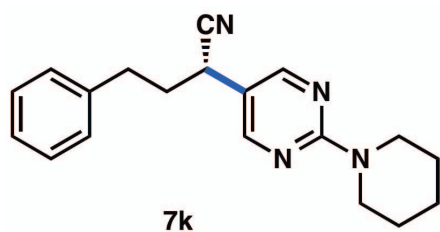
NTK-IV-91-piperidine

Sample Name NTK-IV-91-piperidine
Date collected 2015-04-03

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



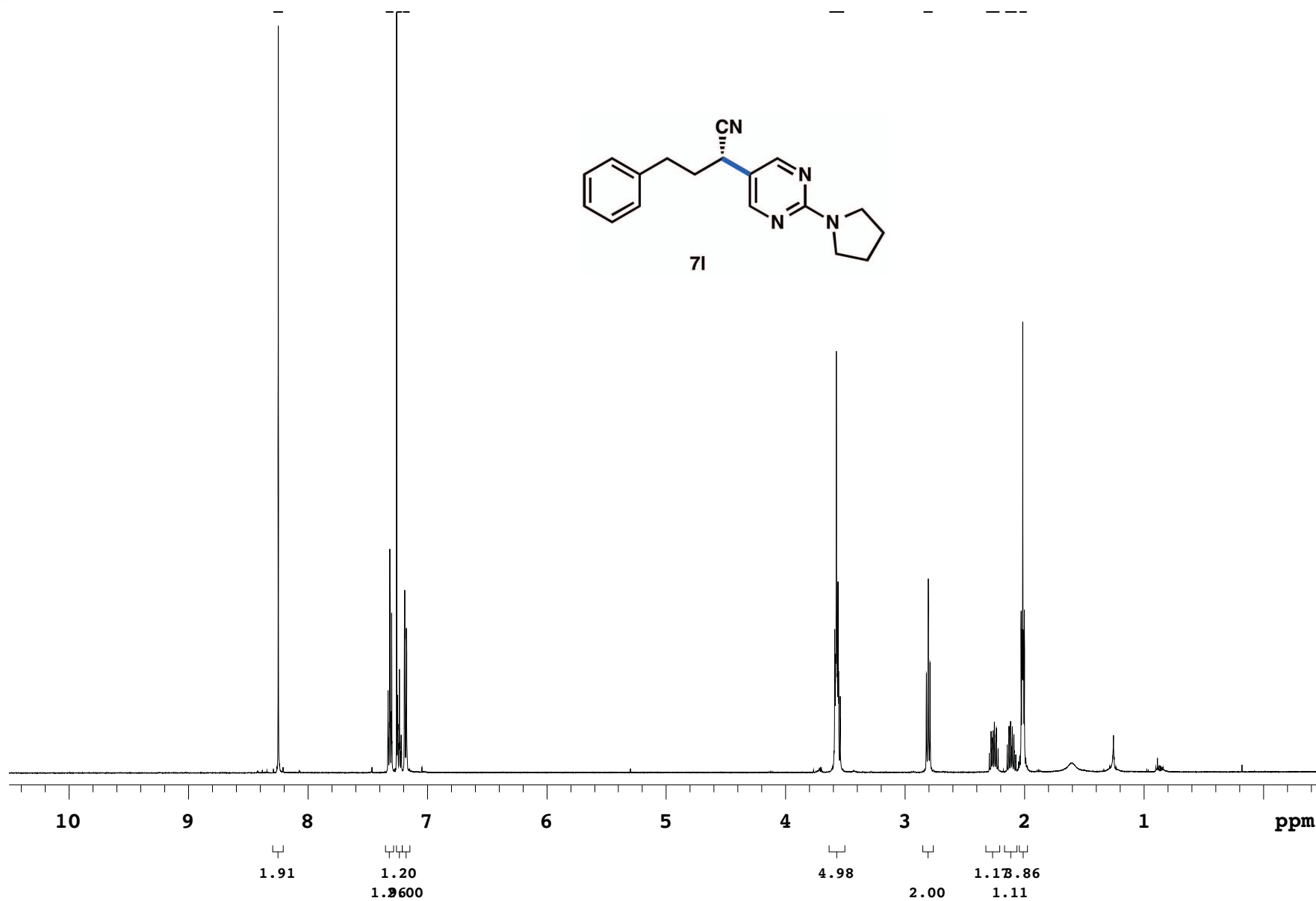
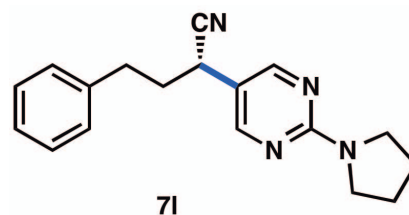
NTK-IV-91-pyrrole

Sample Name NTK-IV-91-pyrrole
Date collected 2015-04-03

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



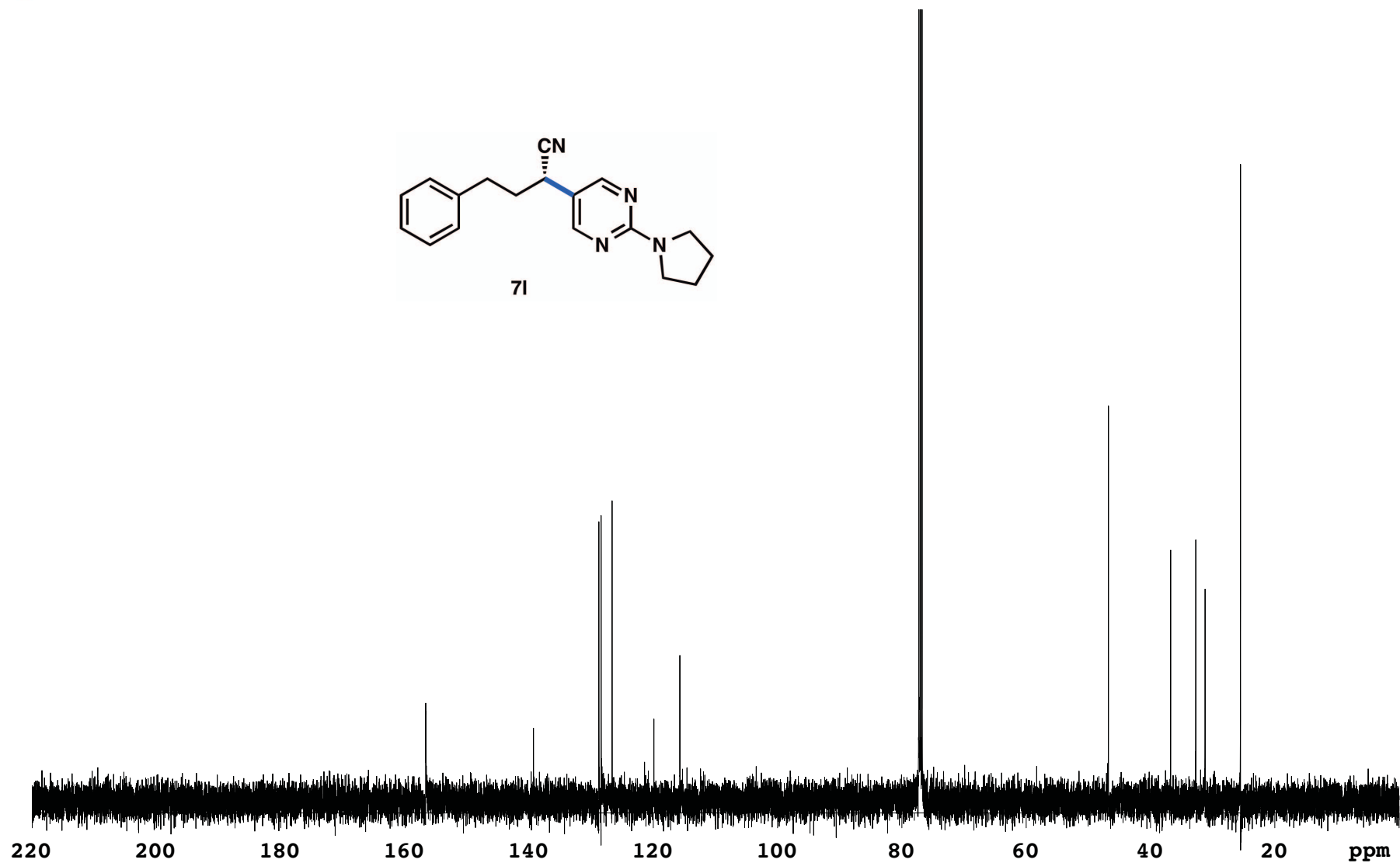
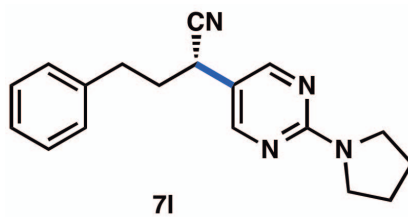
NTK-IV-91-pyrrole

Sample Name NTK-IV-91-pyrrole
Date collected 2015-04-03

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



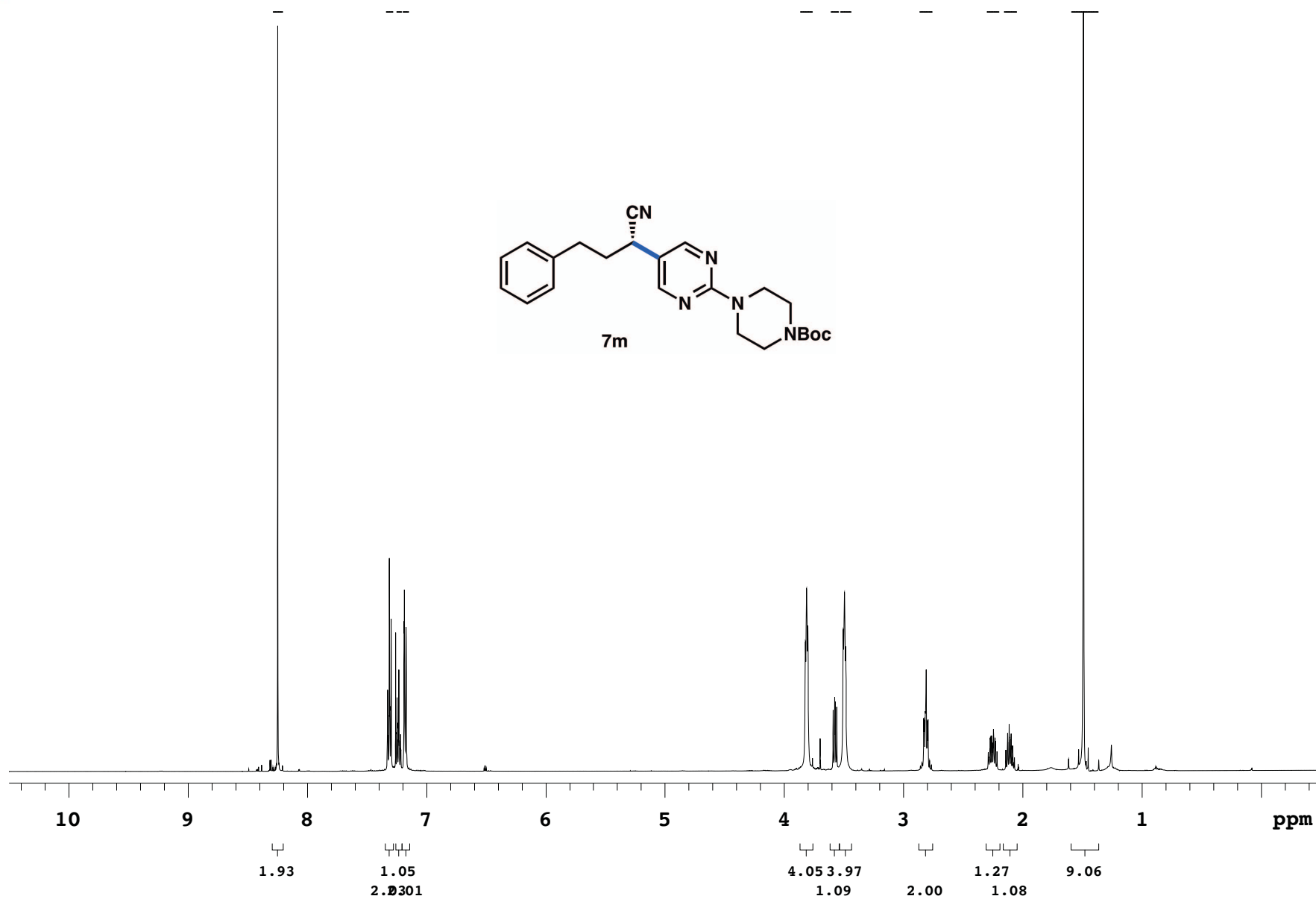
NTK-IV-92-NBocPiperazinyIPyrimidine

Sample Name NTK-IV-92-NBocPiperazinyIPyrimidine
Date collected 2015-04-06
Solvent cdcl3

PROTON

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



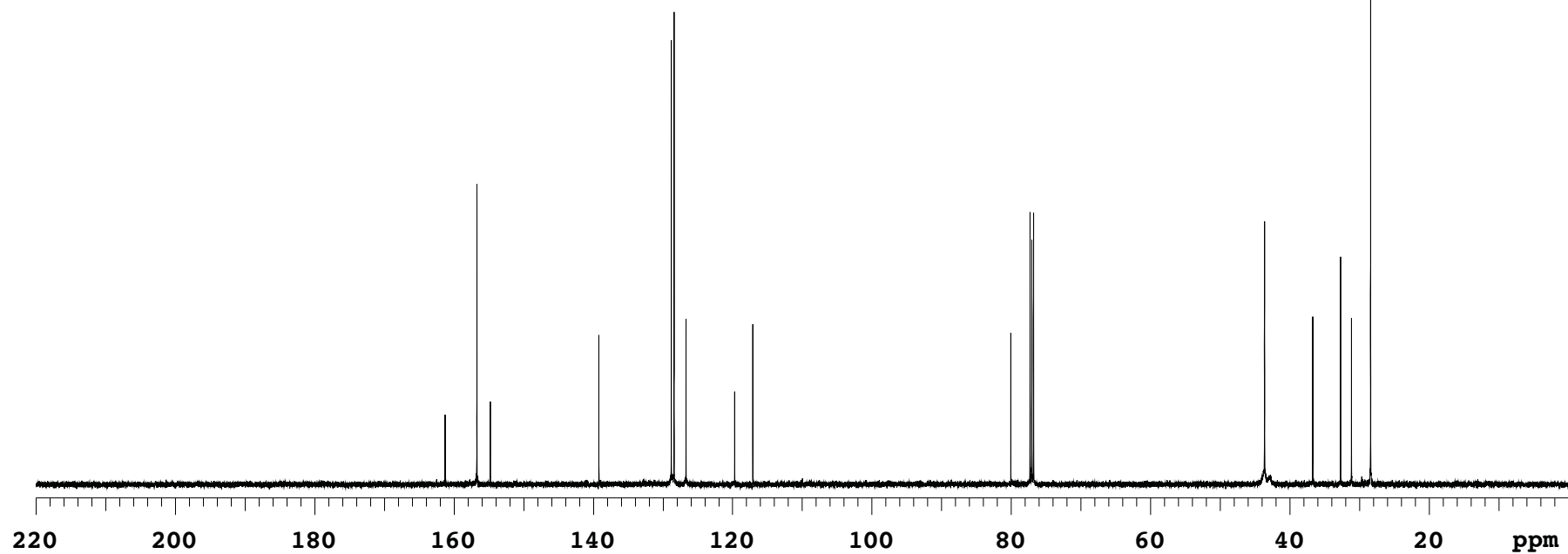
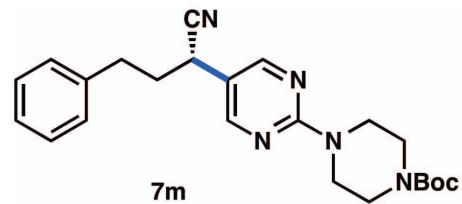
NTK-IV-92-NBocPiperazinyIPyrimidine

Sample Name NTK-IV-92-NBocPiperazinyIPyrimidine
Date collected 2015-04-06
Solvent cdcl3

CARBON

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



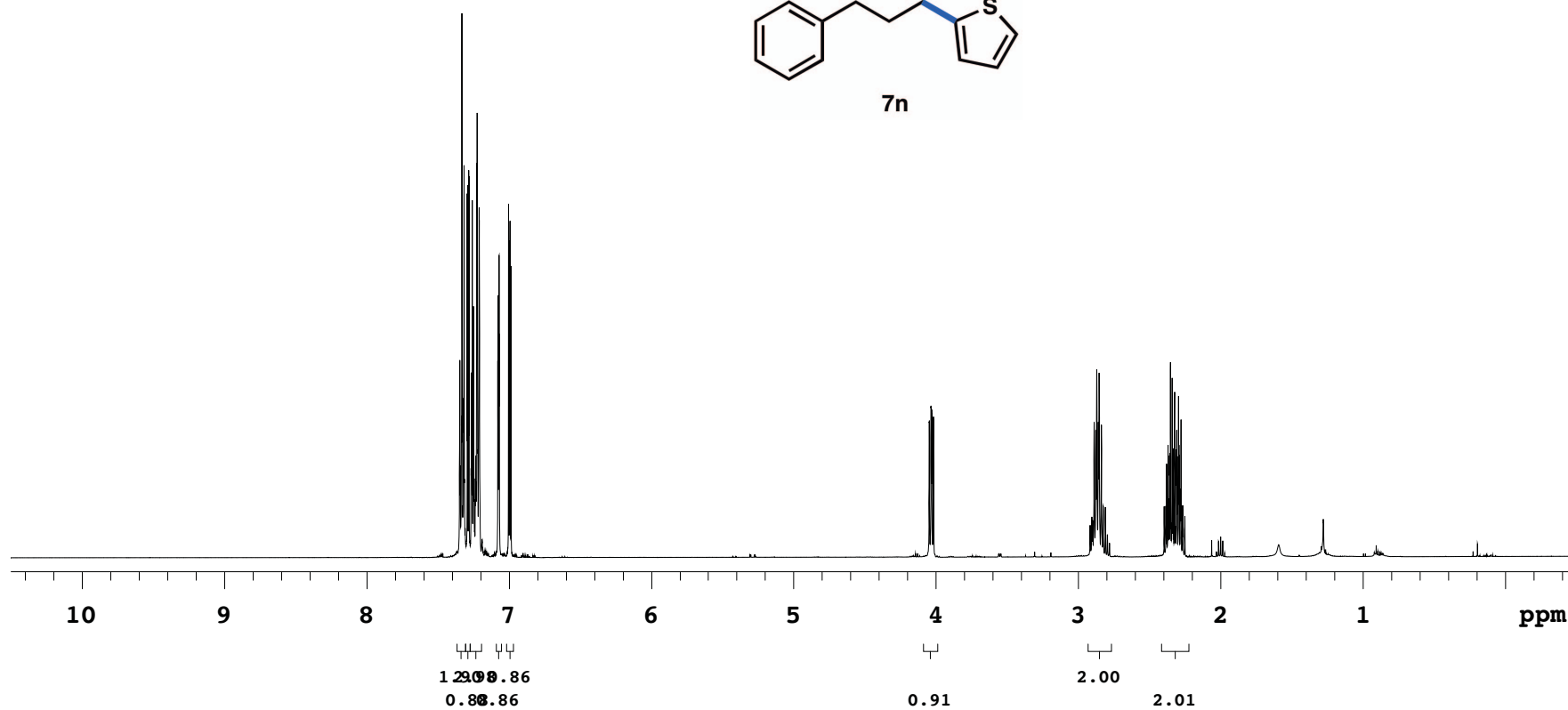
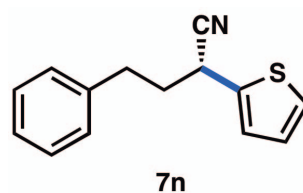
NTK-IV-90-thiophene

Sample Name NTK-IV-90-thiophene
Date collected 2015-04-02

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



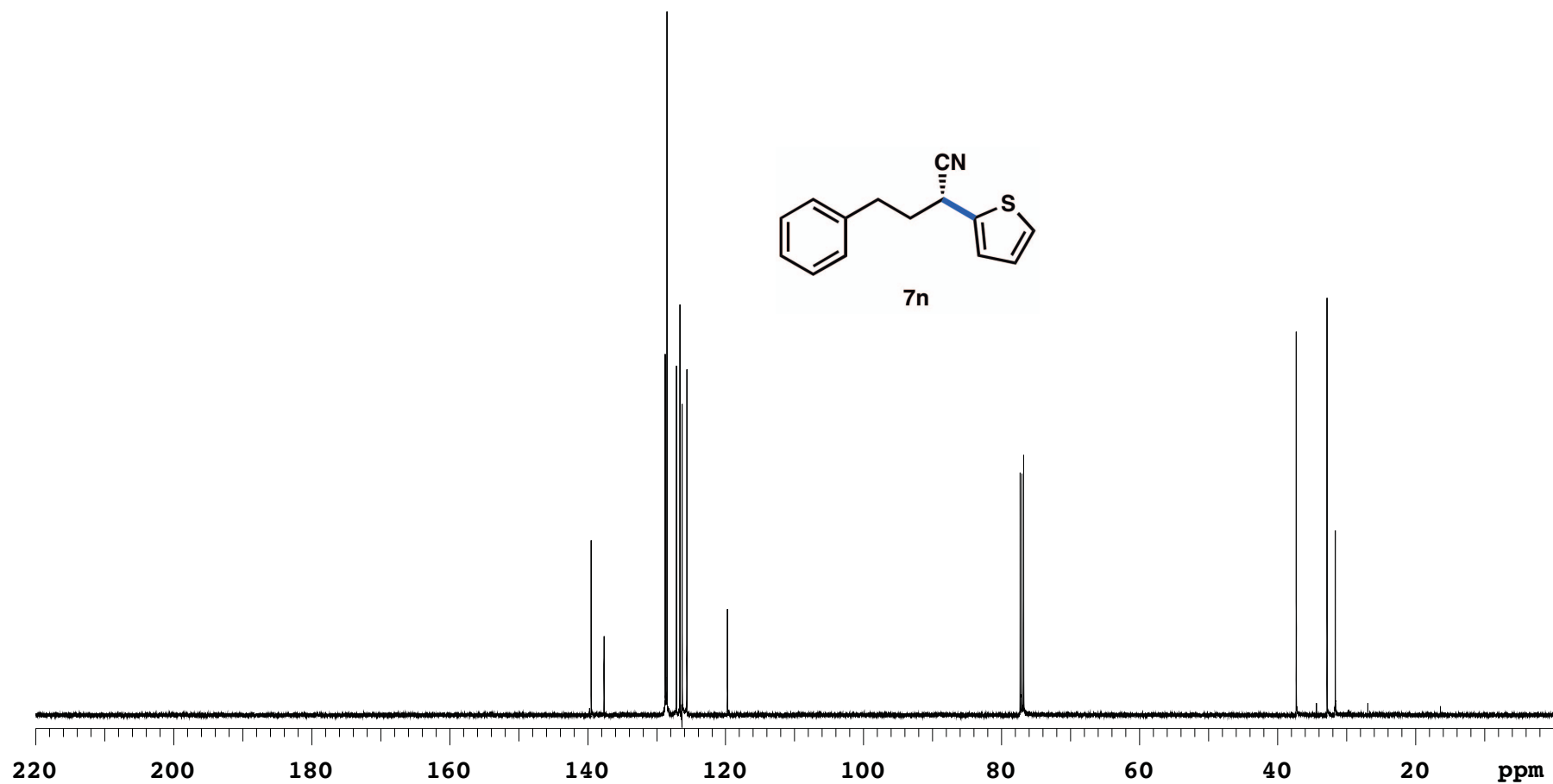
NTK-IV-90-thiophene

Sample Name NTK-IV-90-thiophene
Date collected 2015-04-02

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



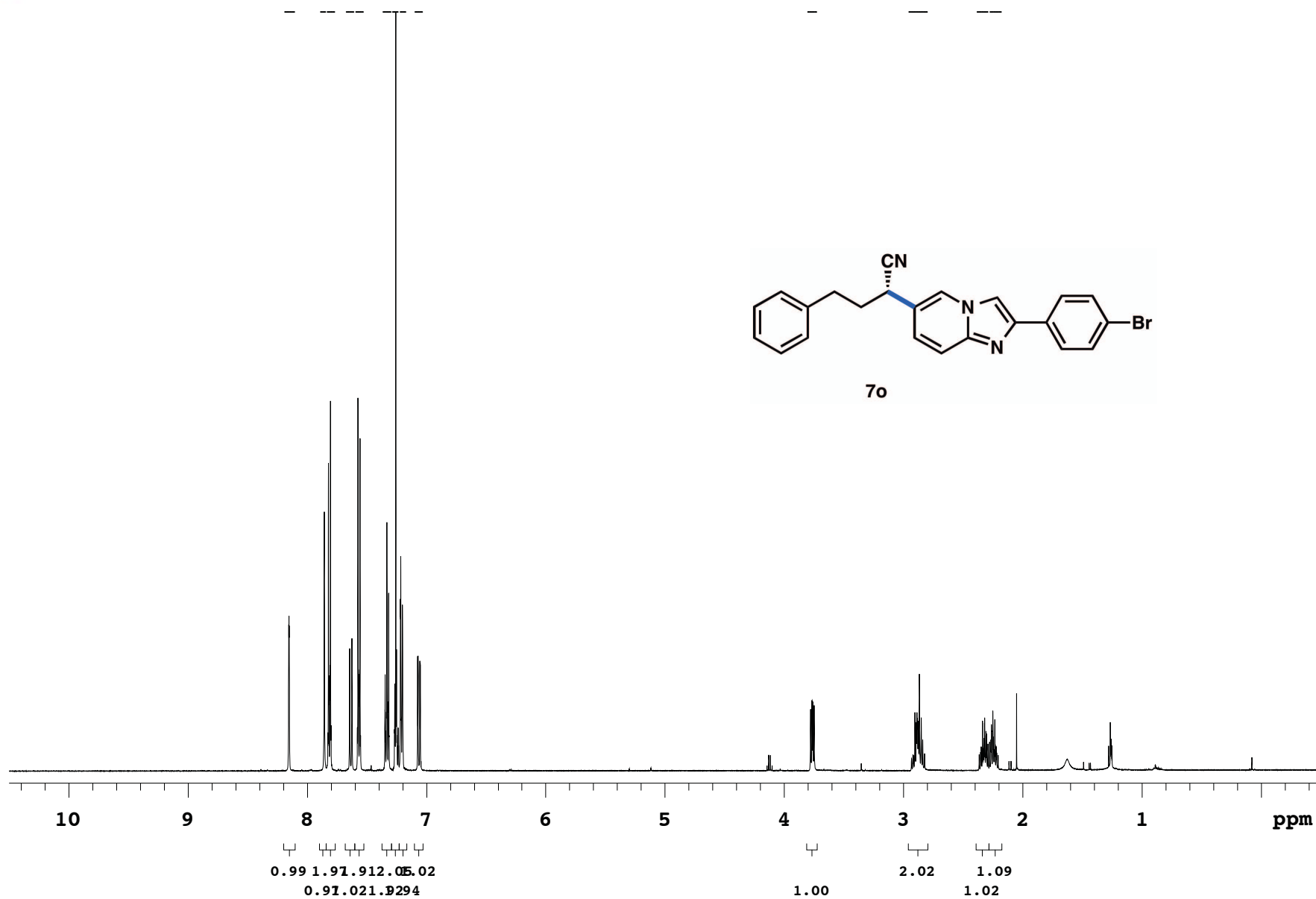
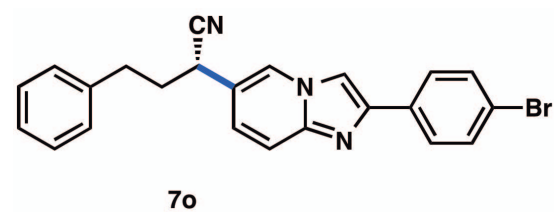
NTK-IV-94-imidprep

Sample Name NTK-IV-94-imidprep
Date collected 2015-04-16

Pulse sequence PROTON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



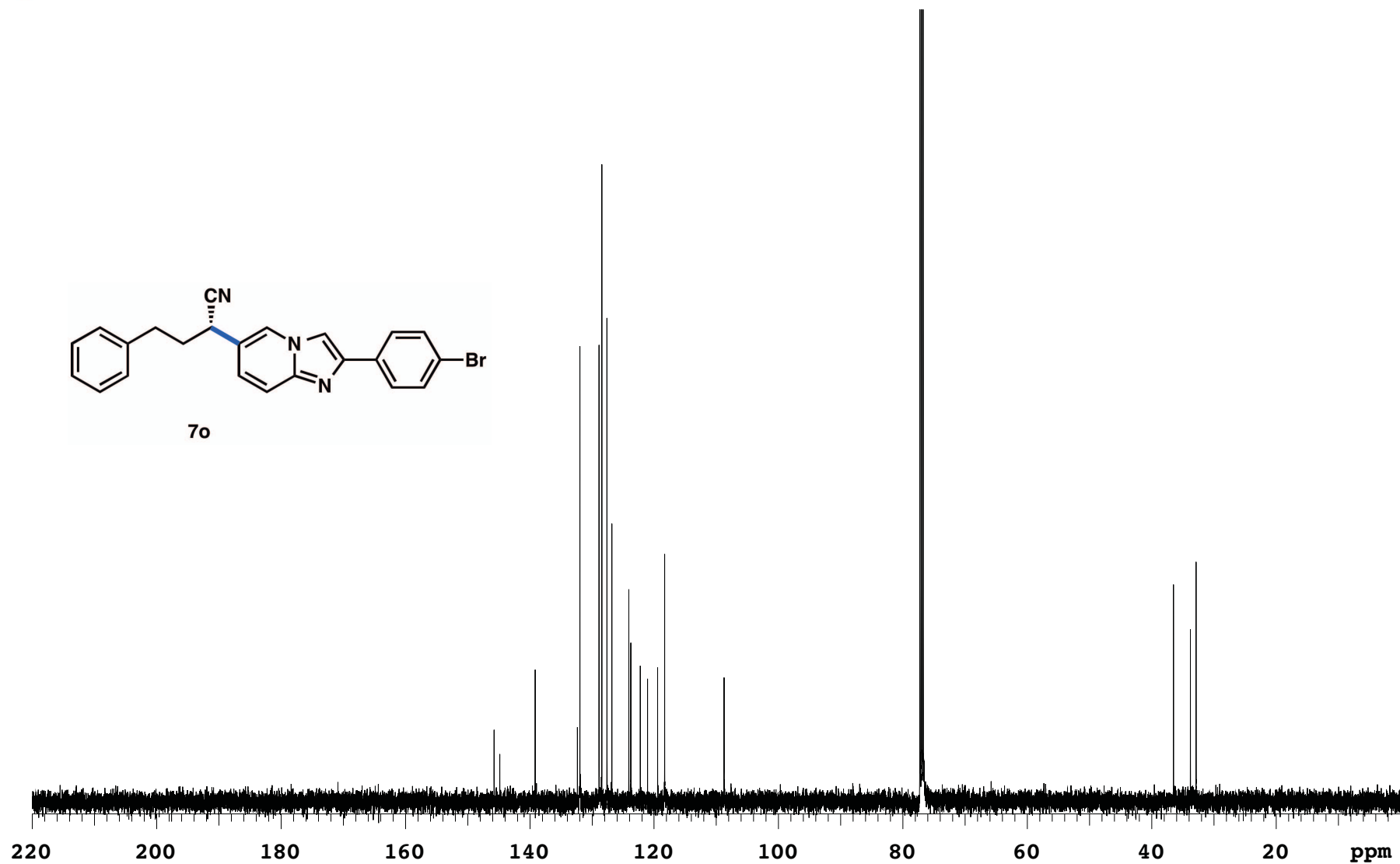
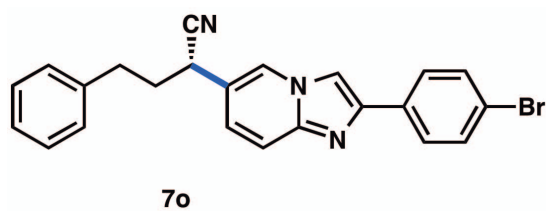
NTK-IV-94-imidprep

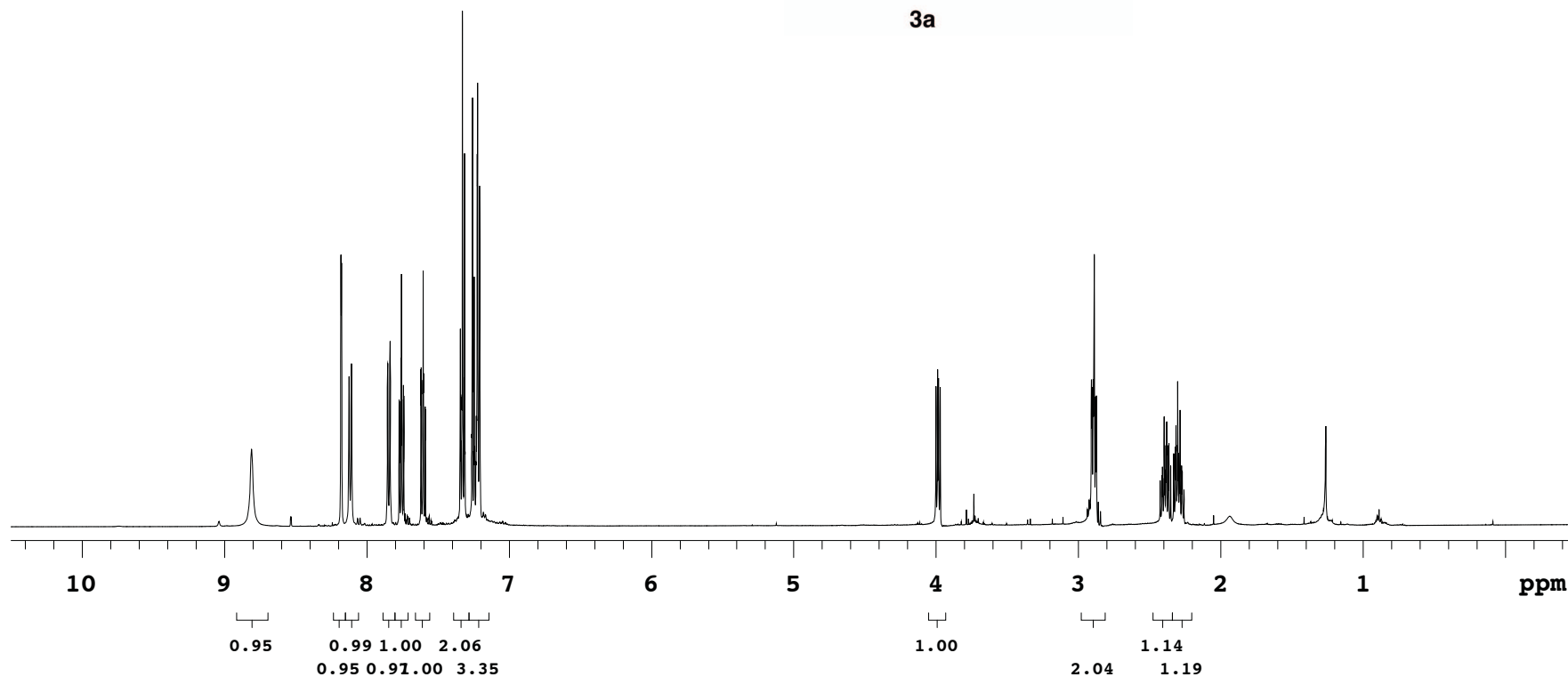
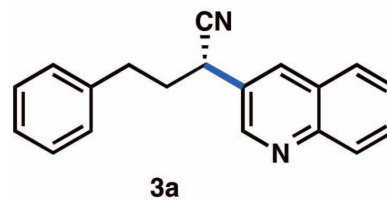
Sample Name NTK-IV-94-imidprep
Date collected 2015-04-16

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser





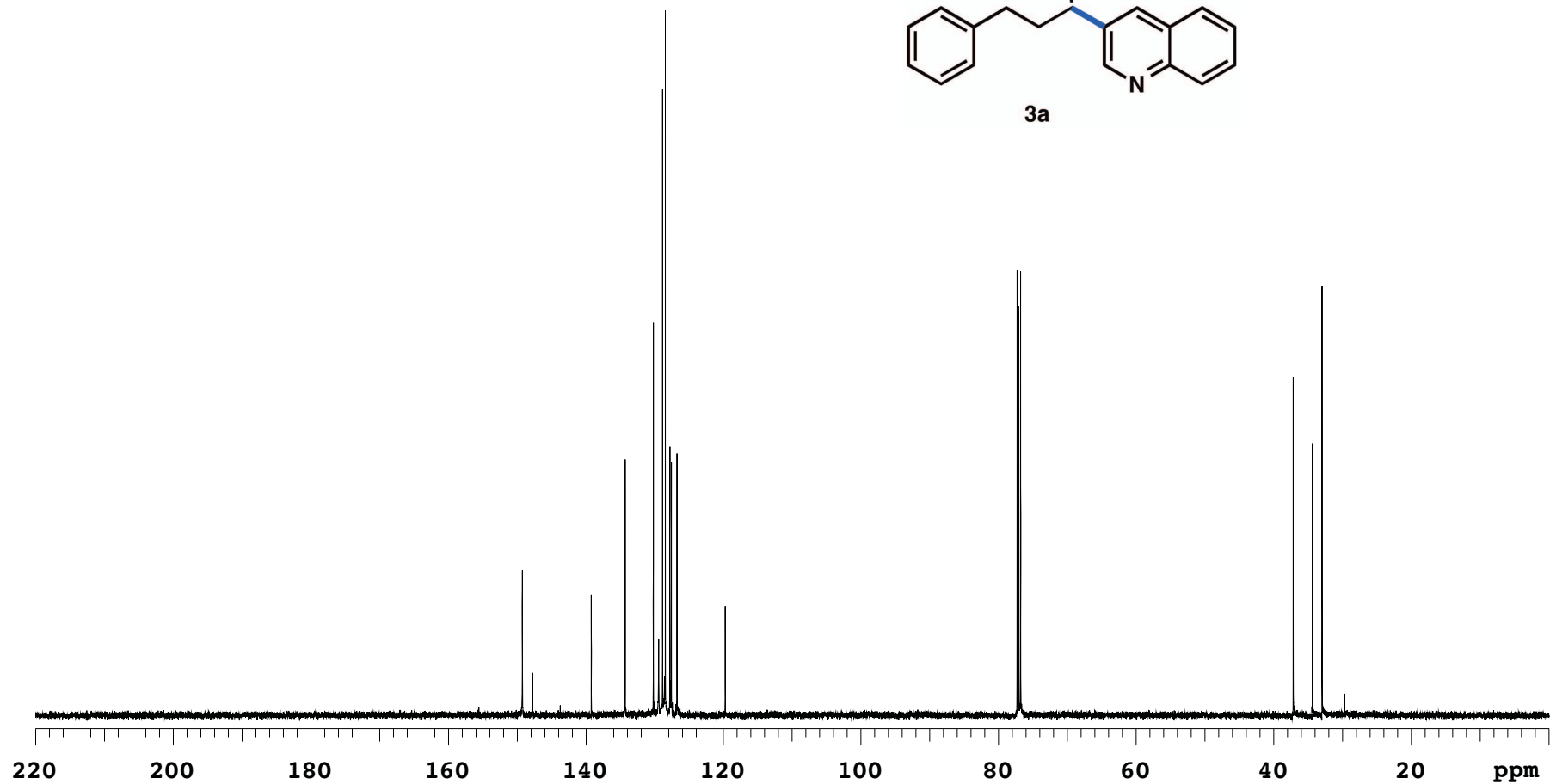
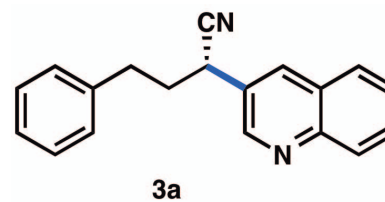
NTK-IV-75-pure

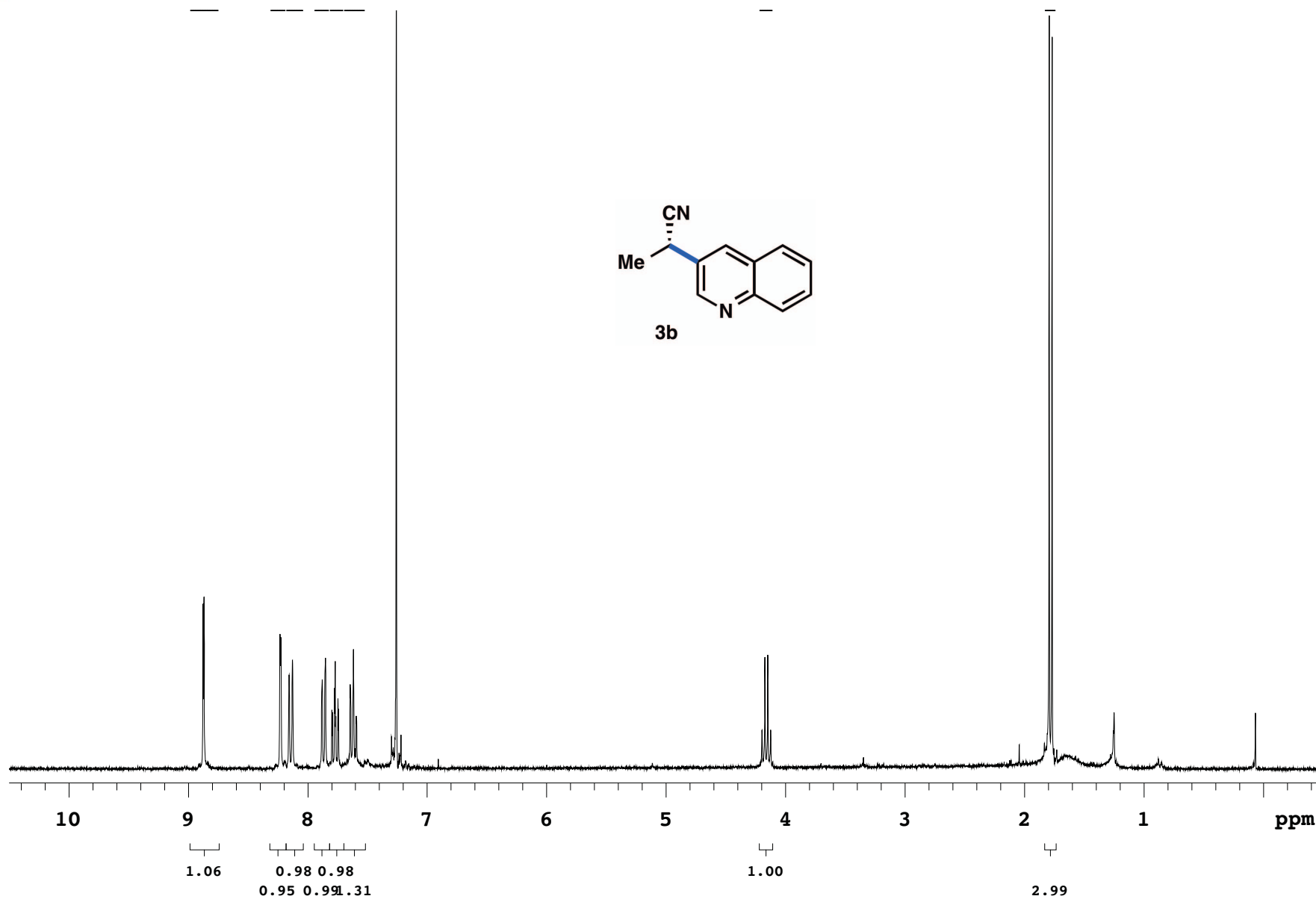
Sample Name NTK-IV-75-pure
Date collected 2015-03-03

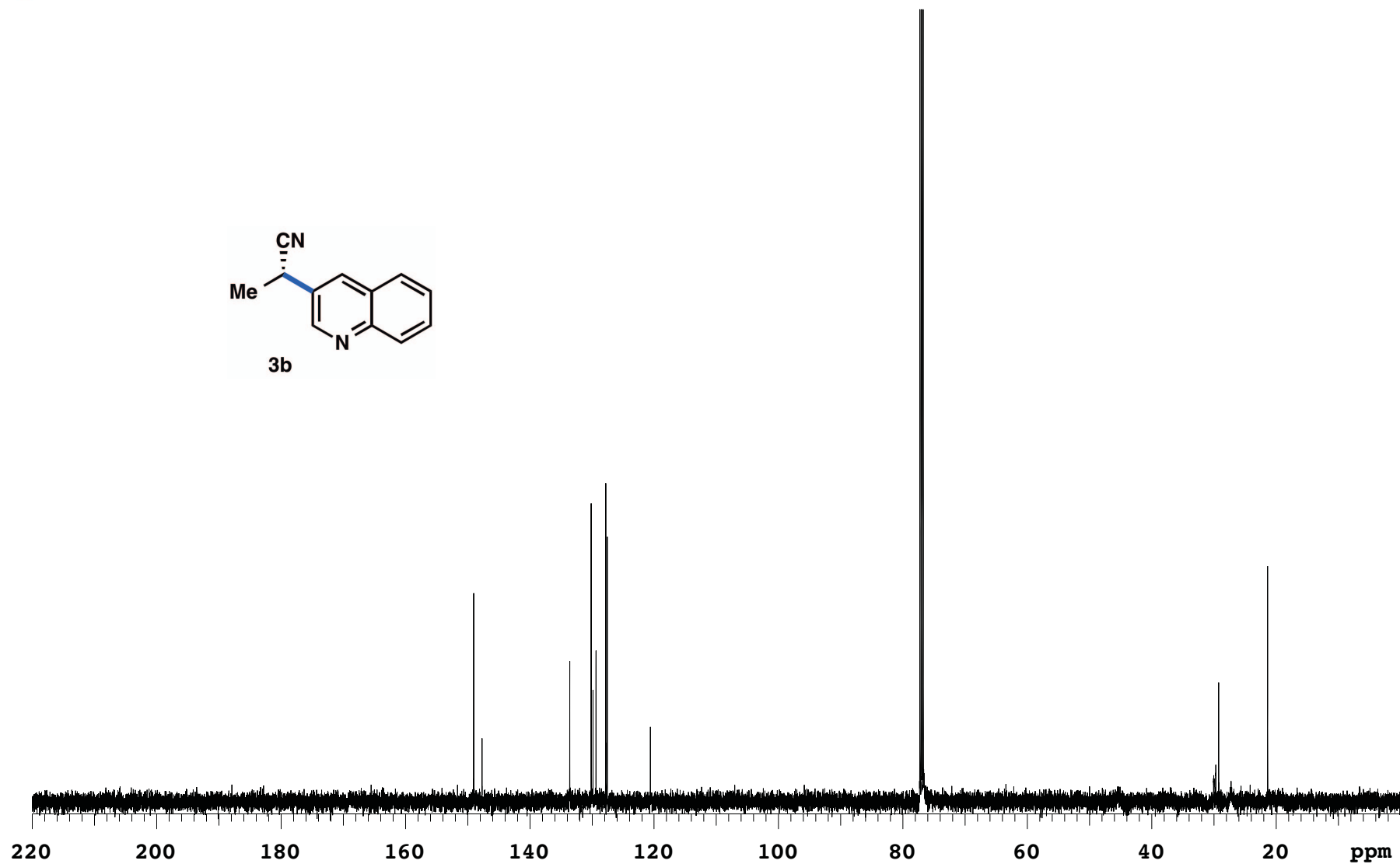
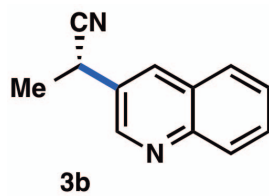
Pulse sequence CARBON
Solvent cdcl3

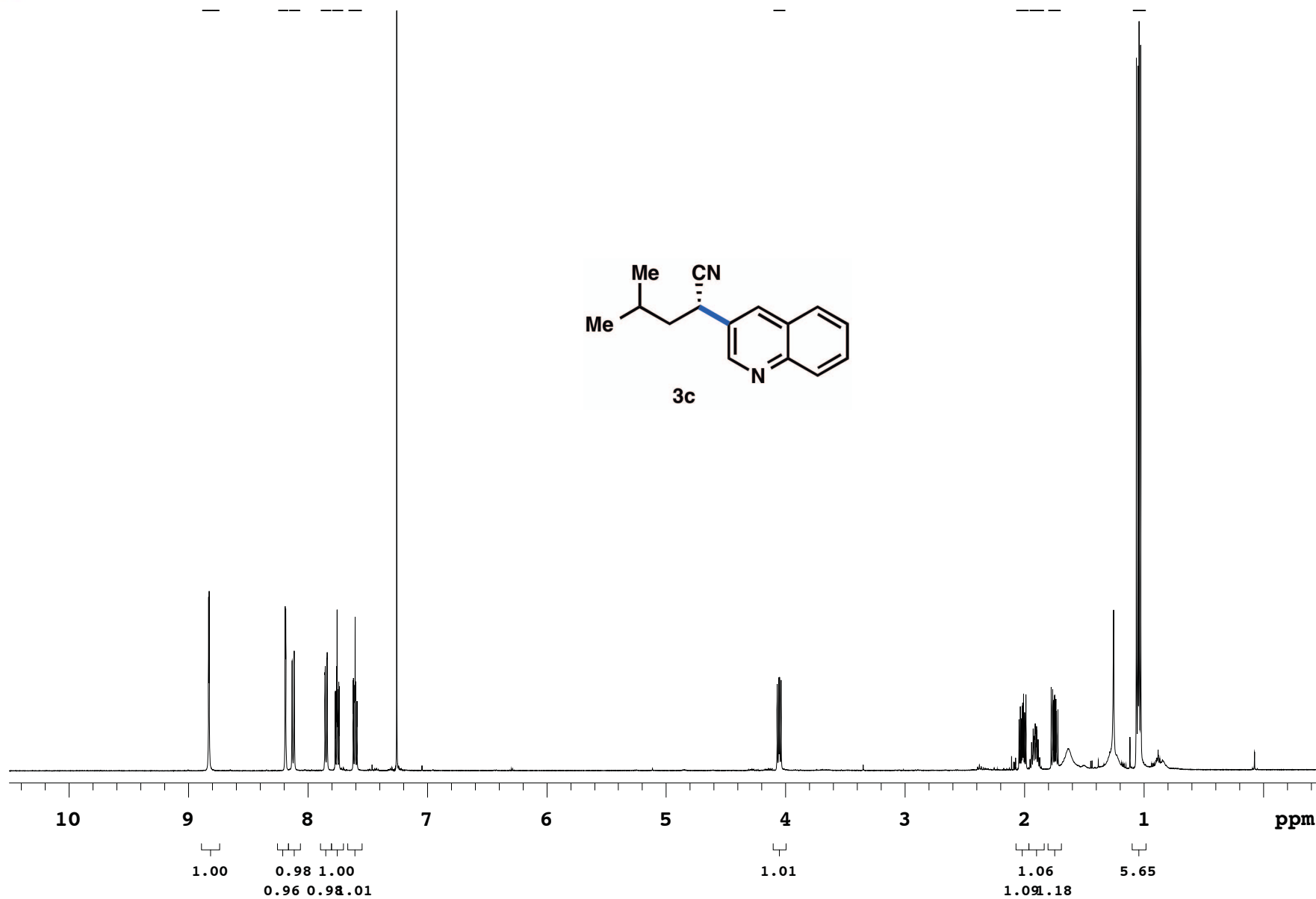
Temperature 25
Spectrometer -vnmrs400

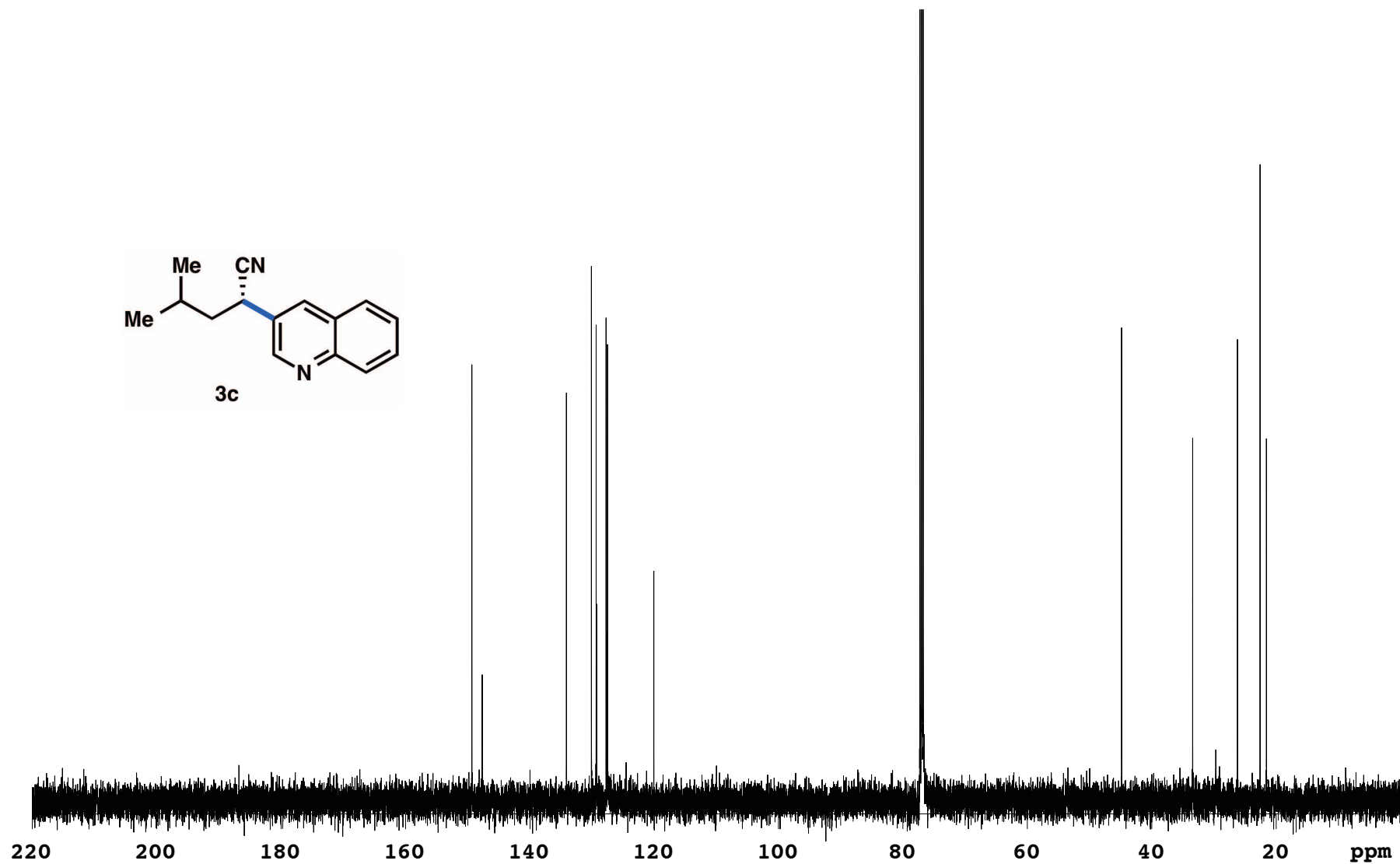
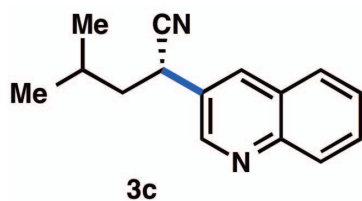
Study owner nkadunce
Operator autouser

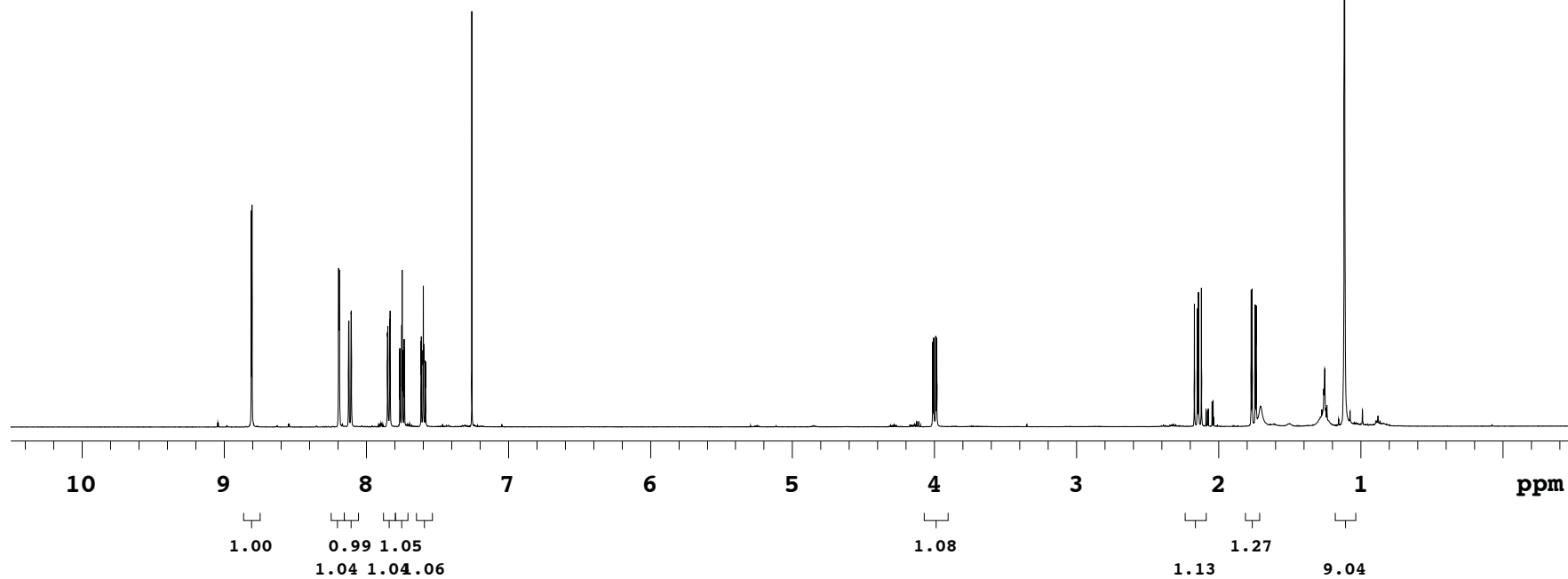
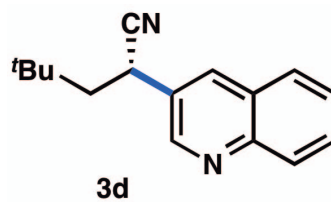


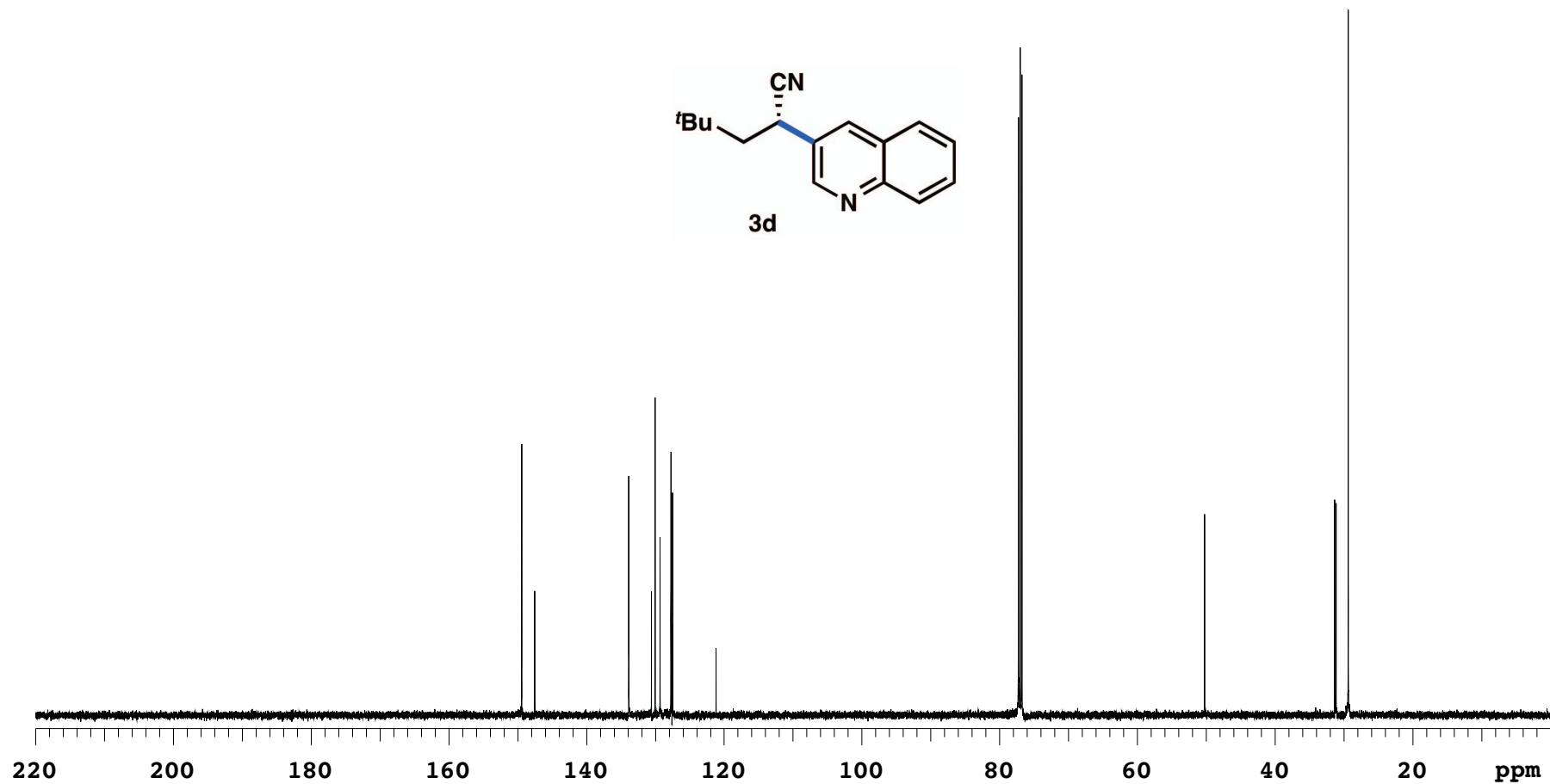
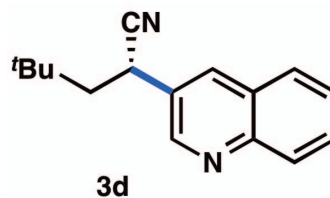


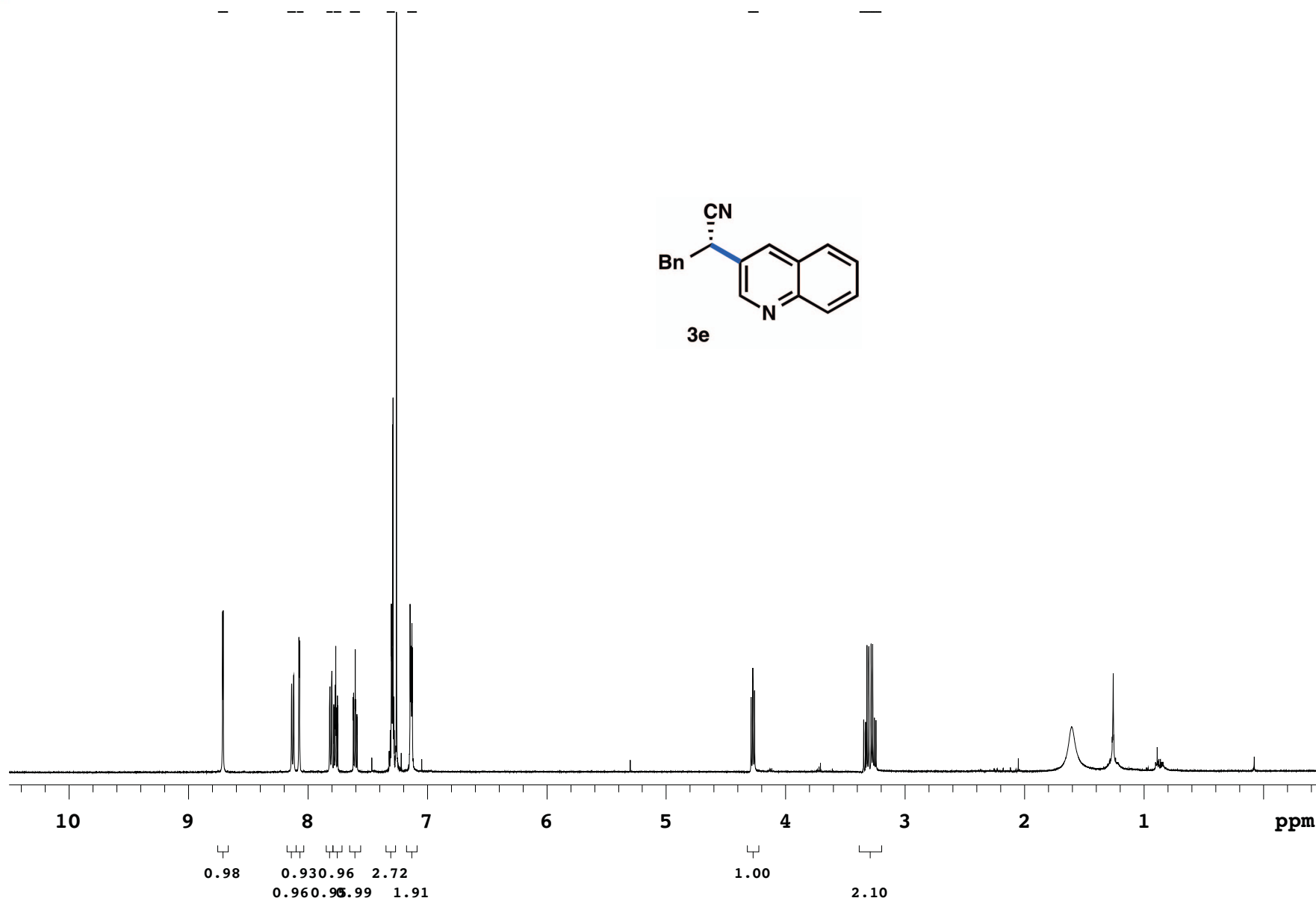


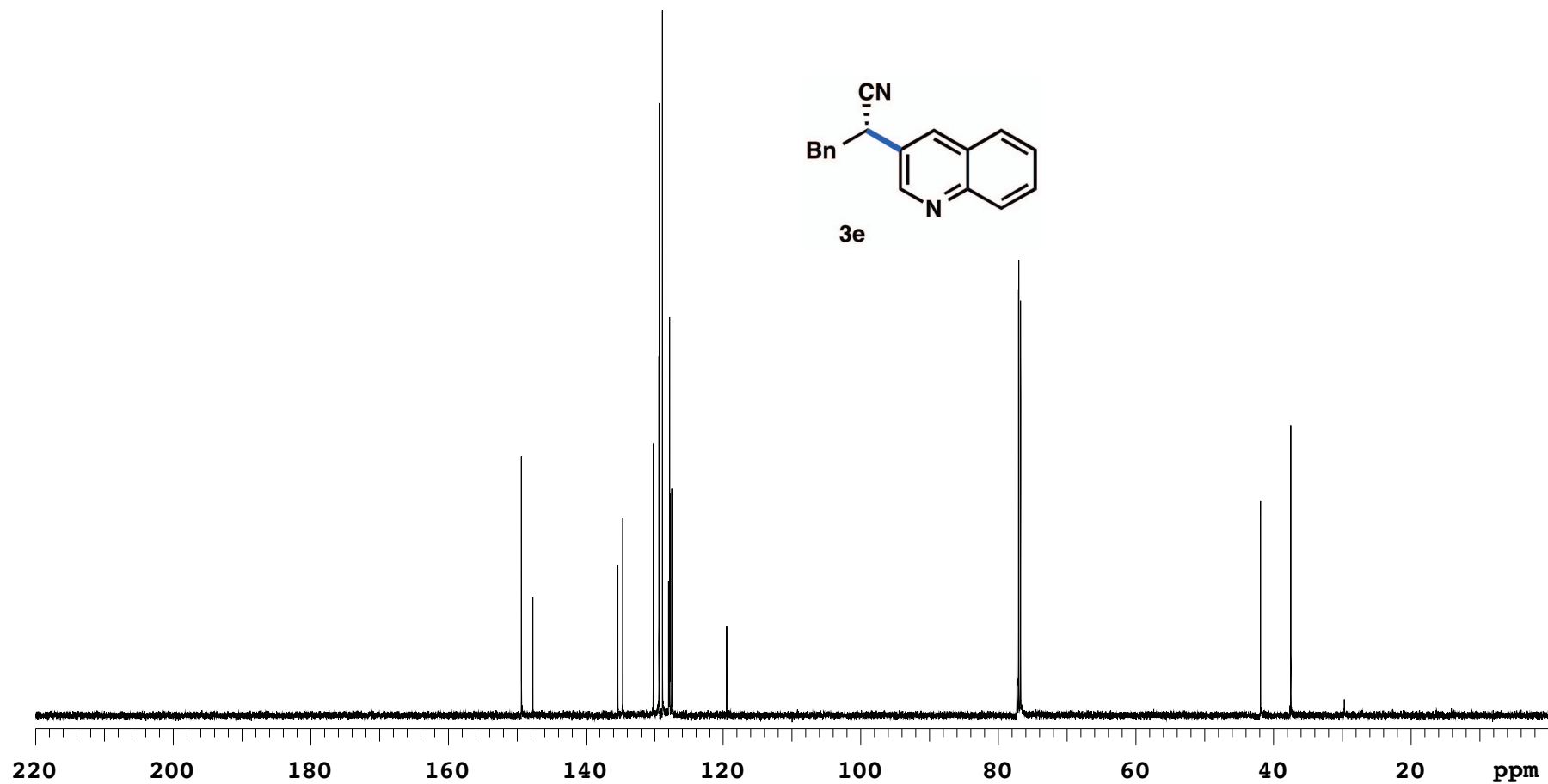


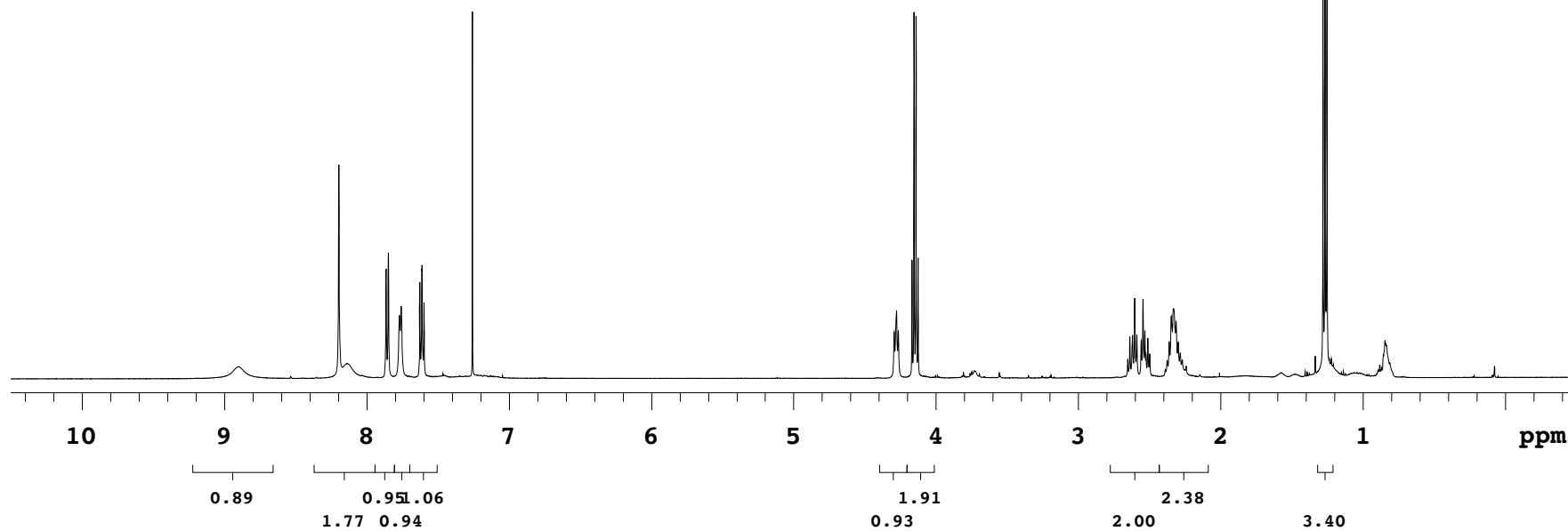
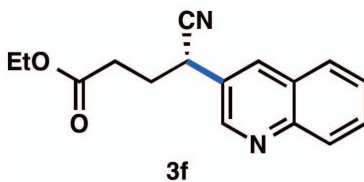


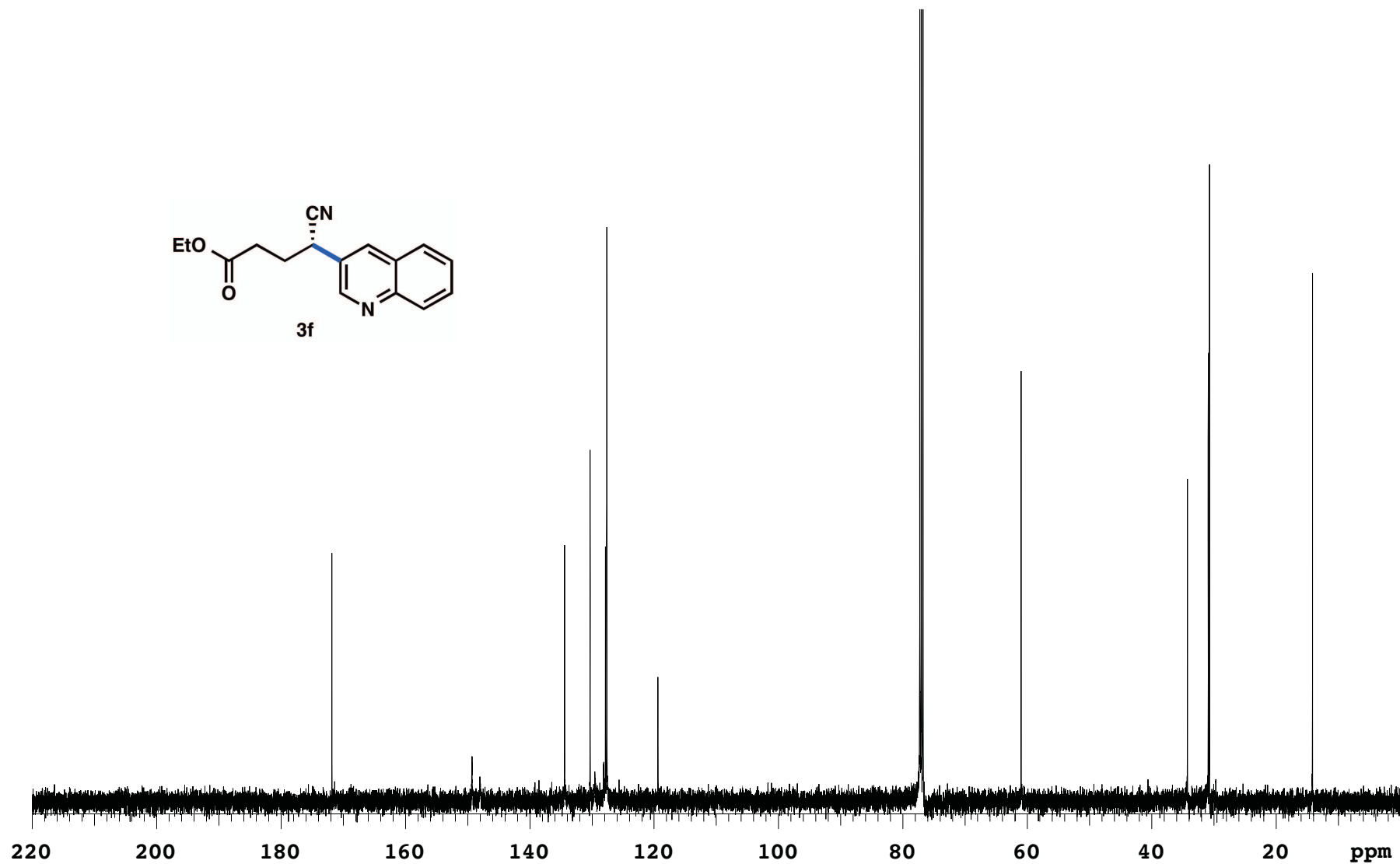
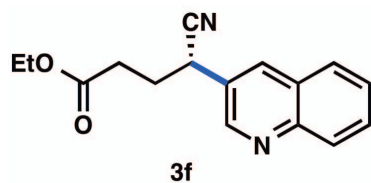


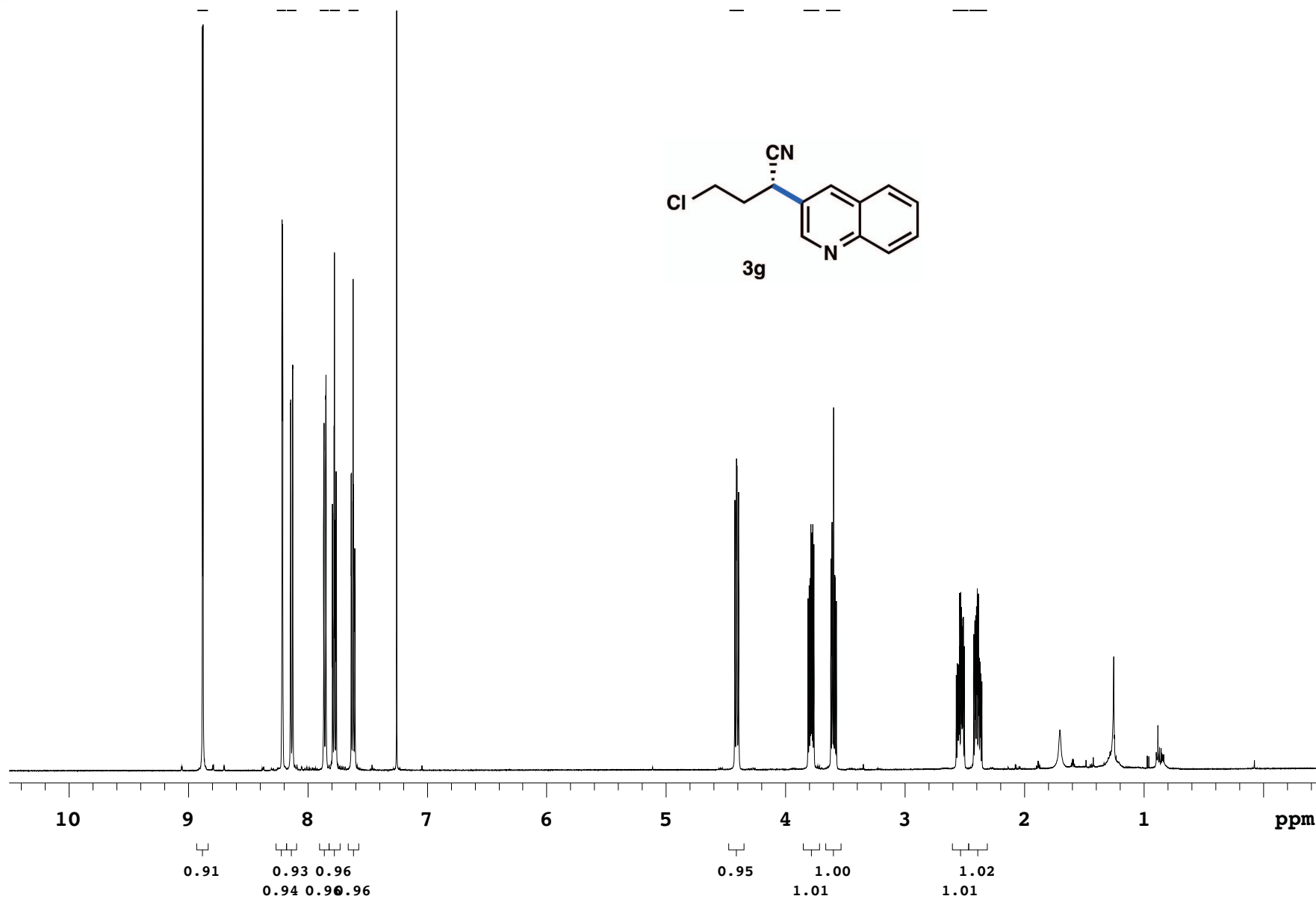
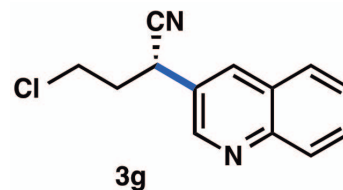


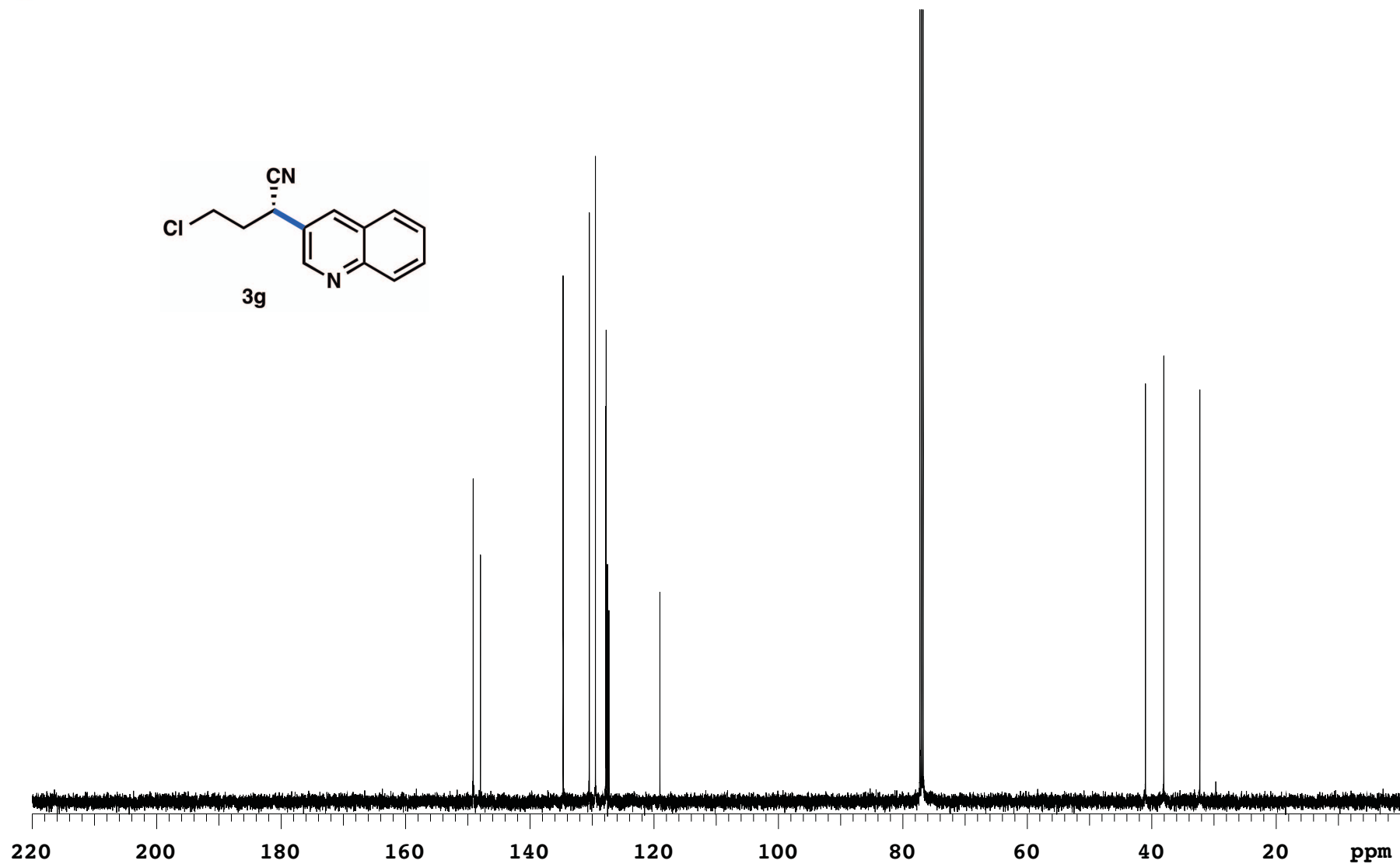
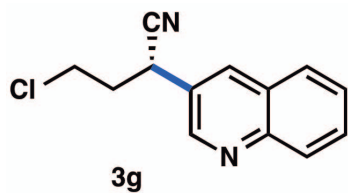


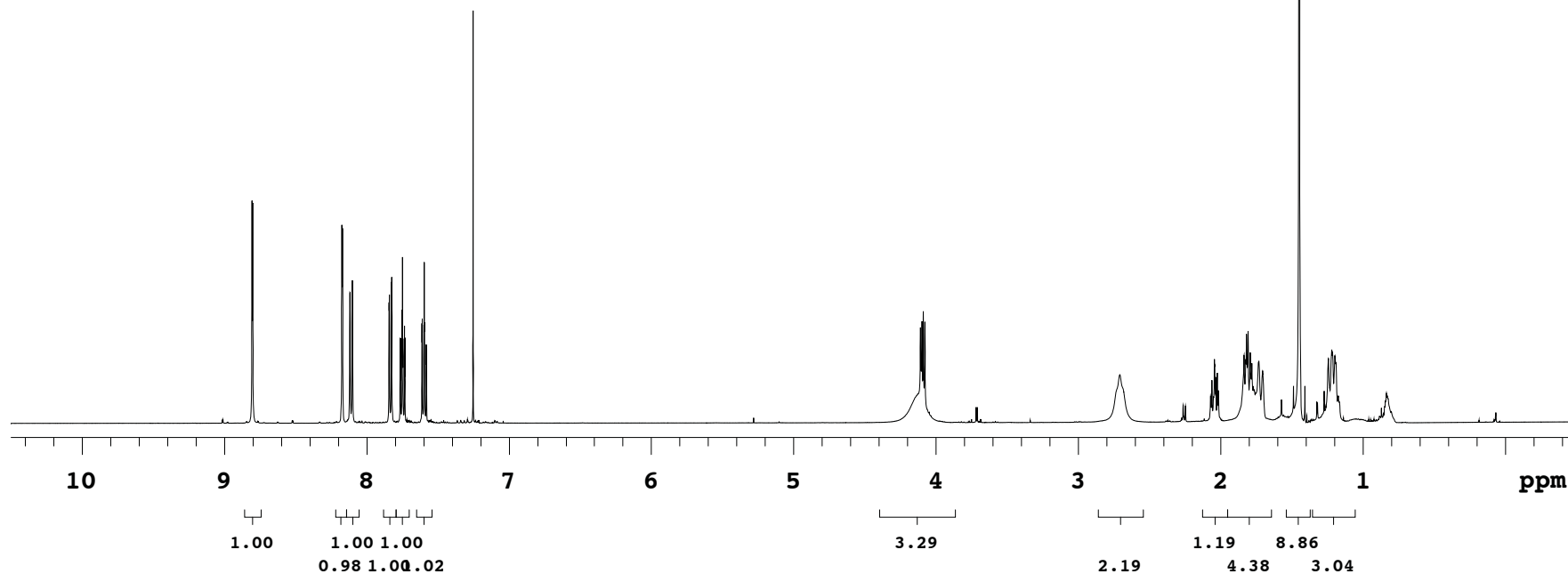
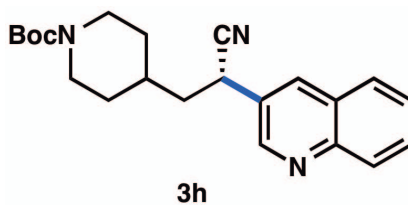


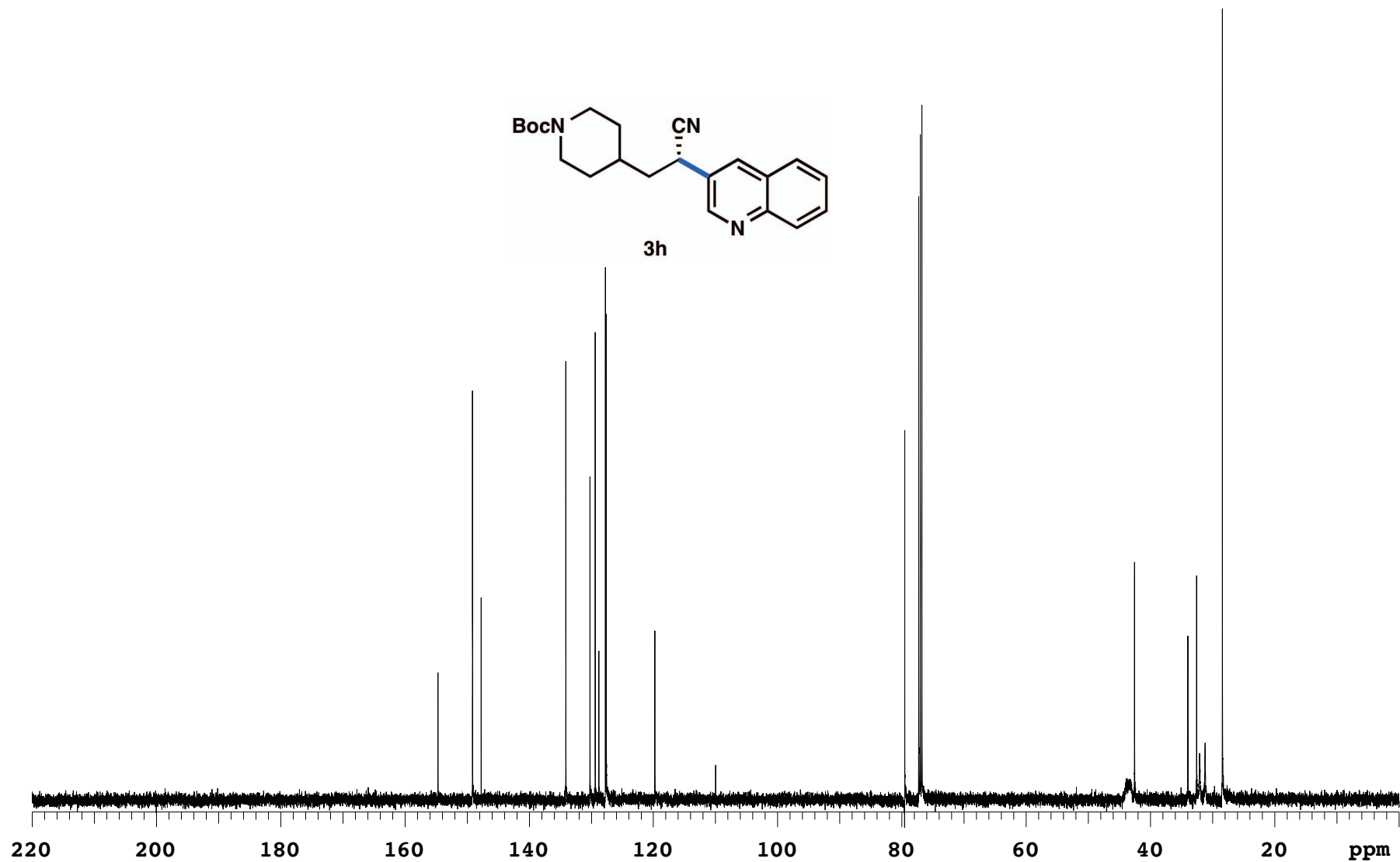
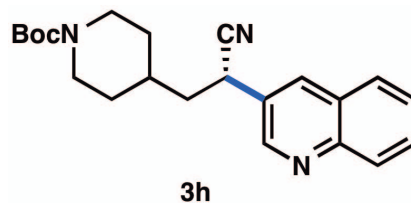


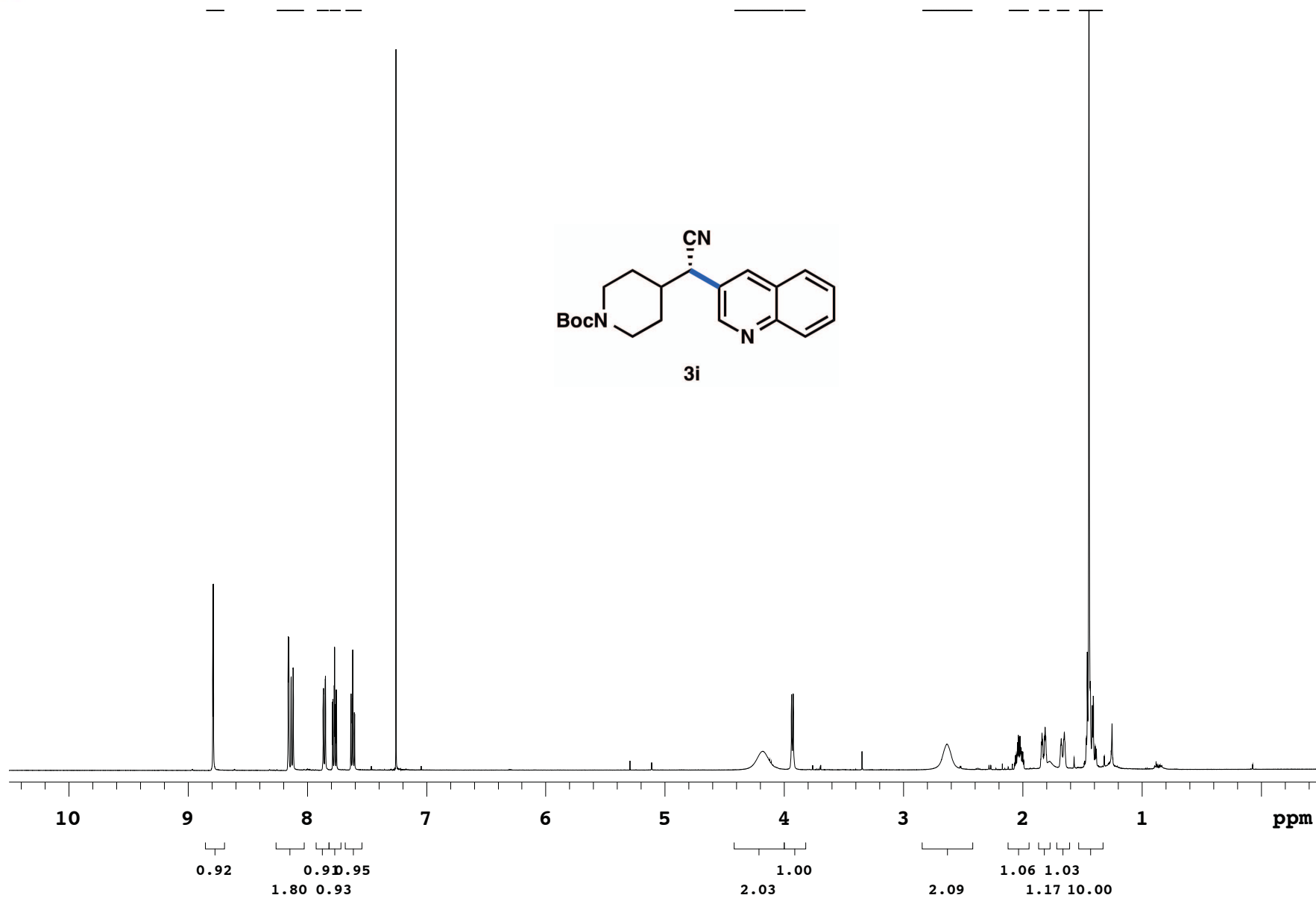
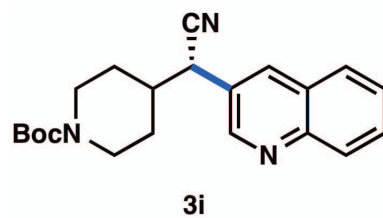












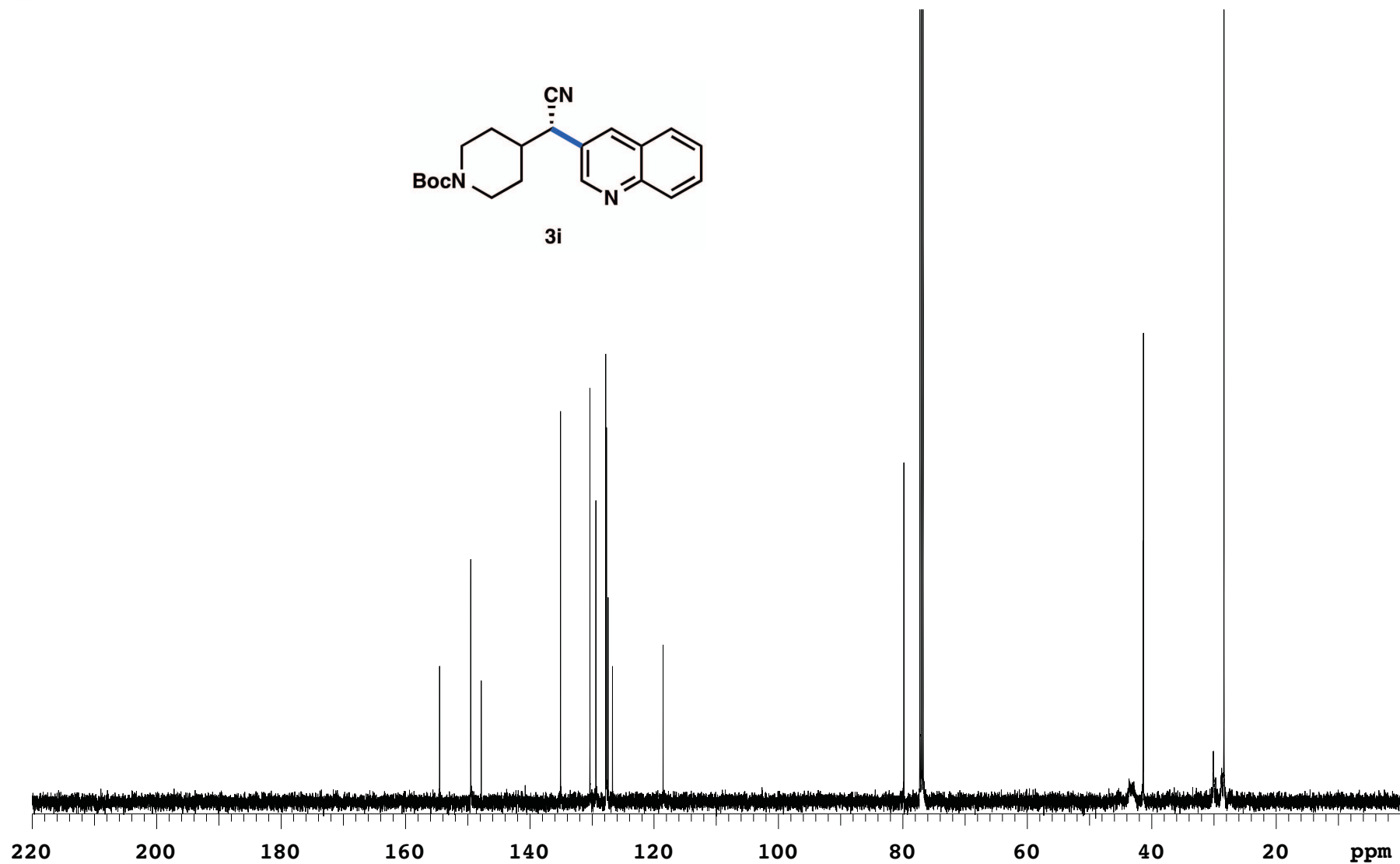
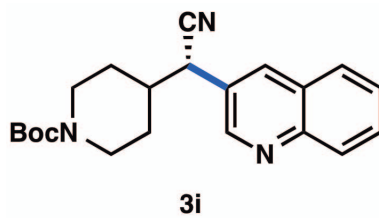
NTK-IV-99-BocPip

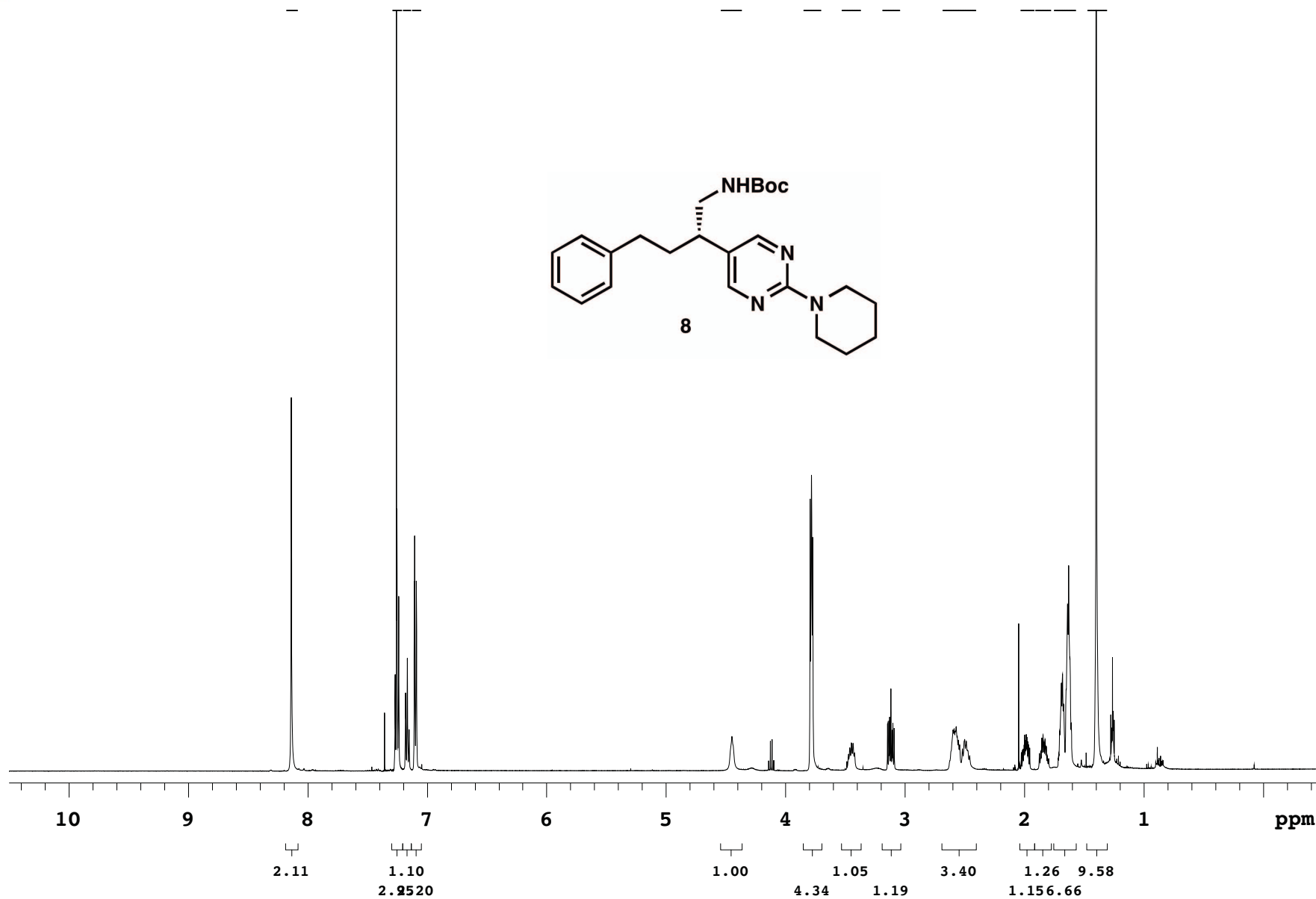
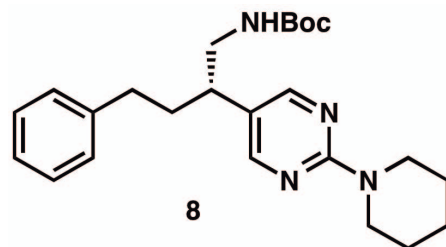
Sample Name NTK-IV-99-BocPip
Date collected 2015-04-15

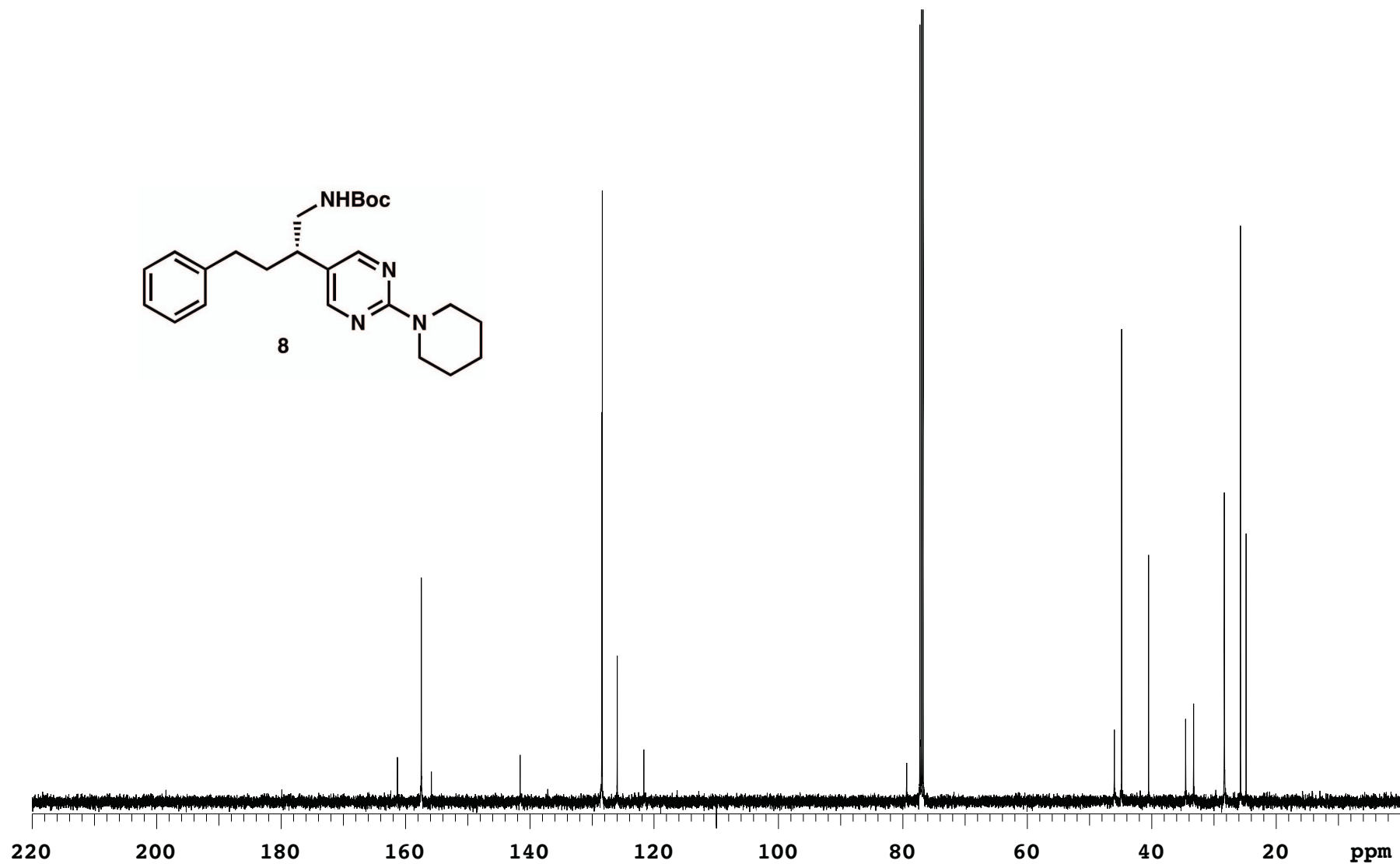
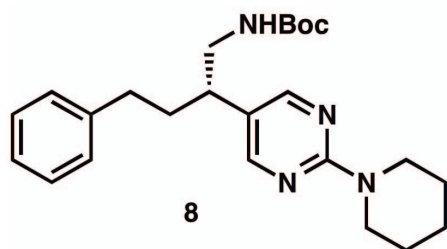
Pulse sequence CARBON
Solvent cdcl3

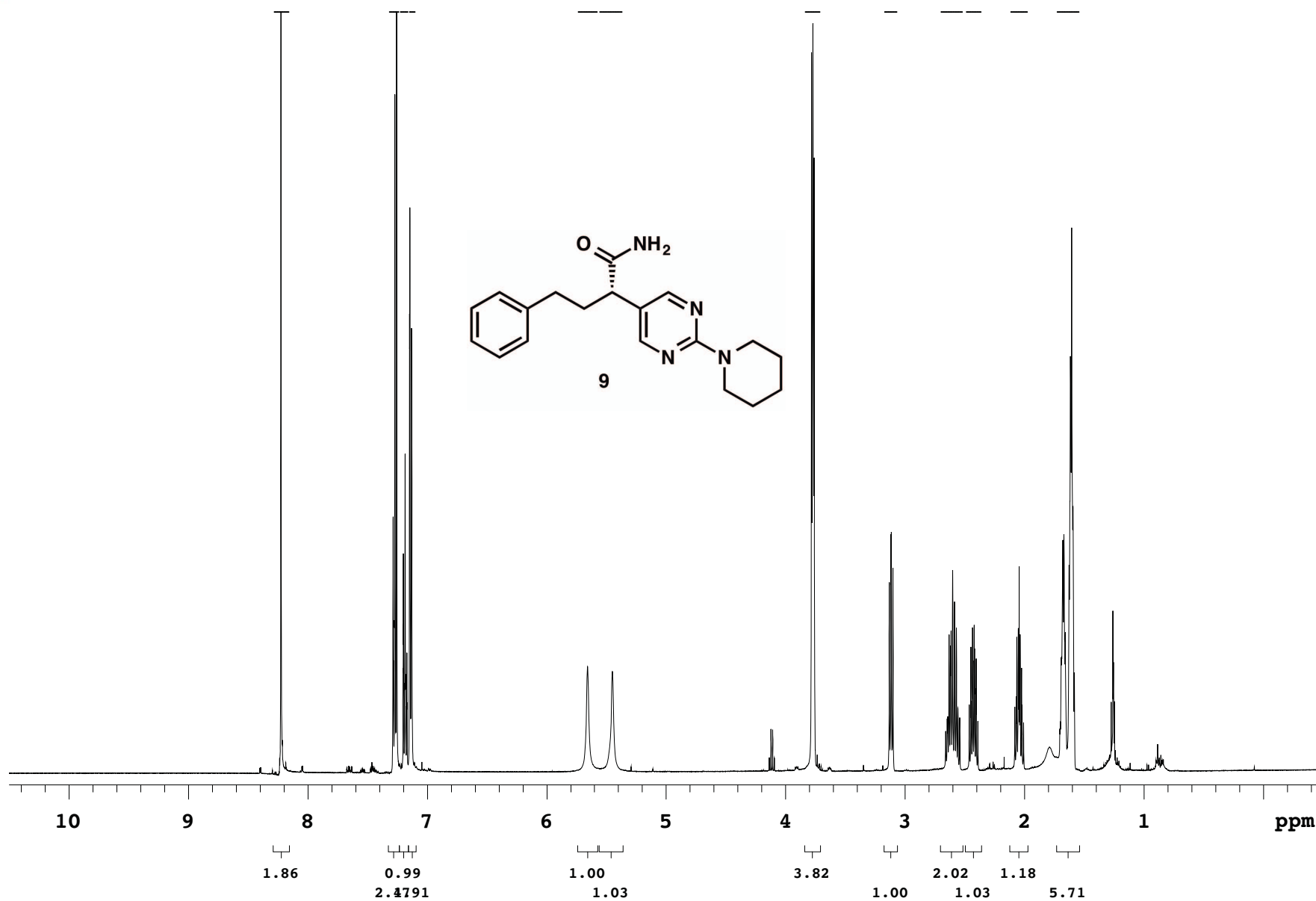
Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser









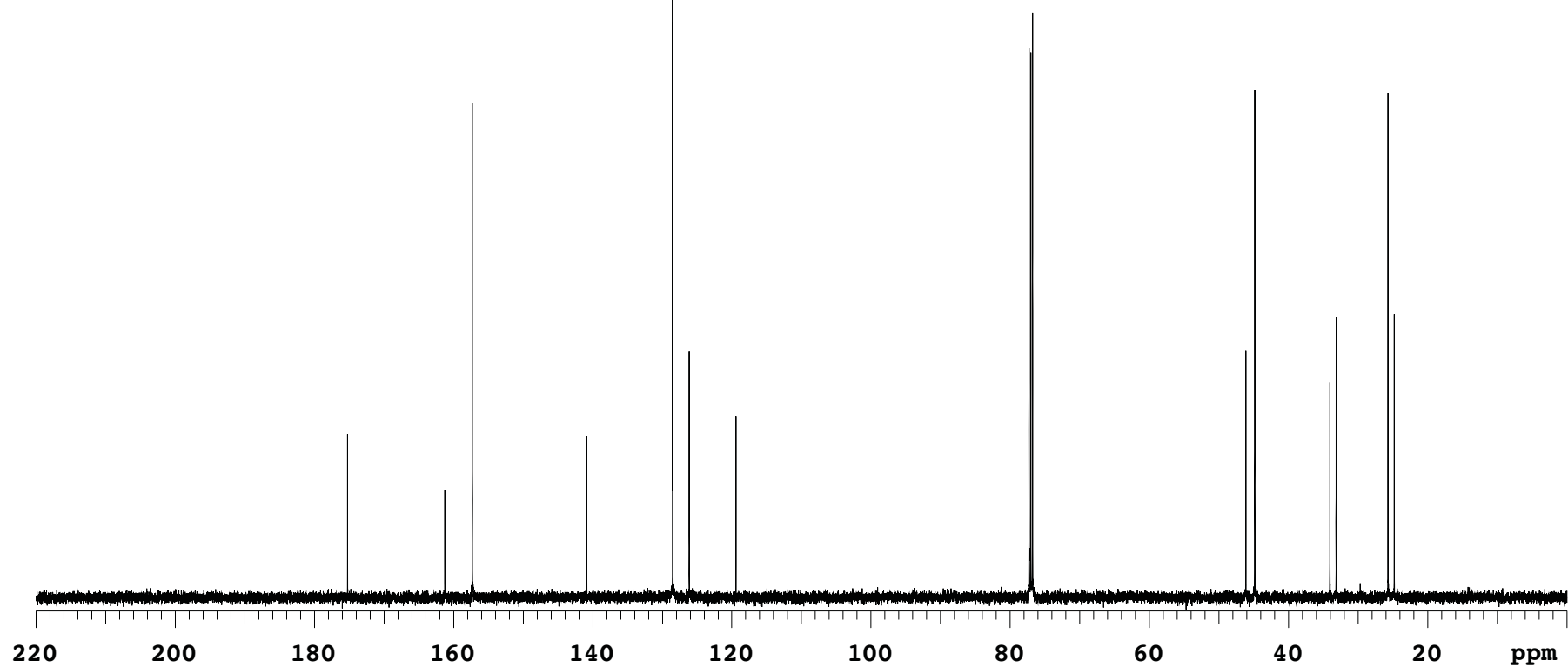
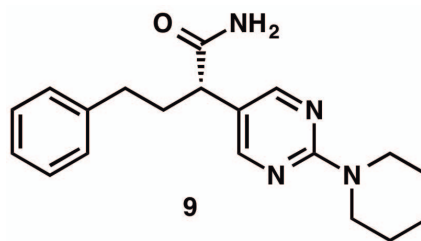
NTK-IV-CONH2-pure

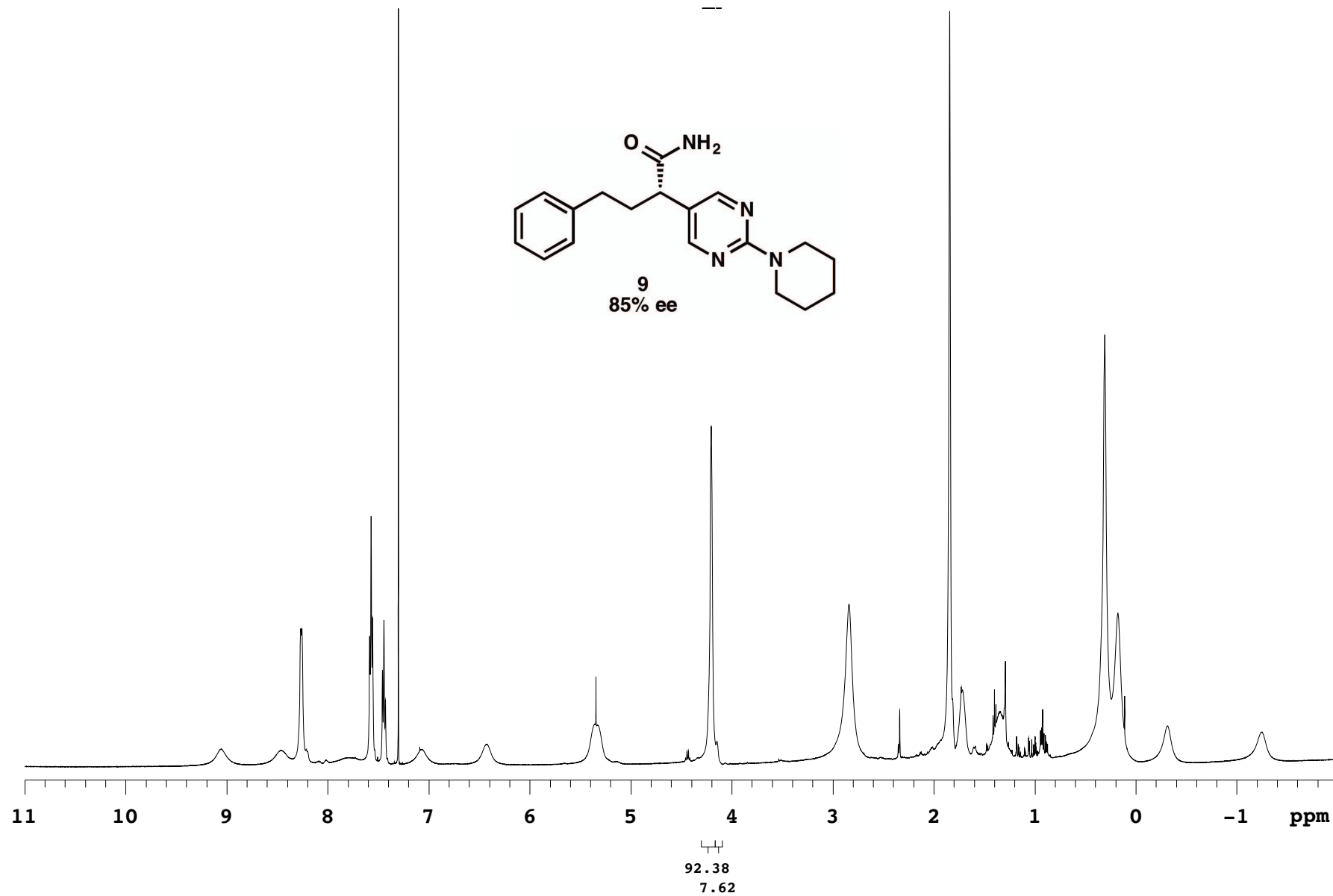
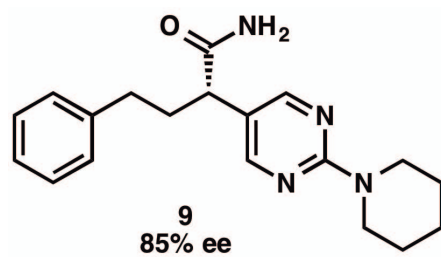
Sample Name NTK-IV-CONH2-pure
Date collected 2015-05-19

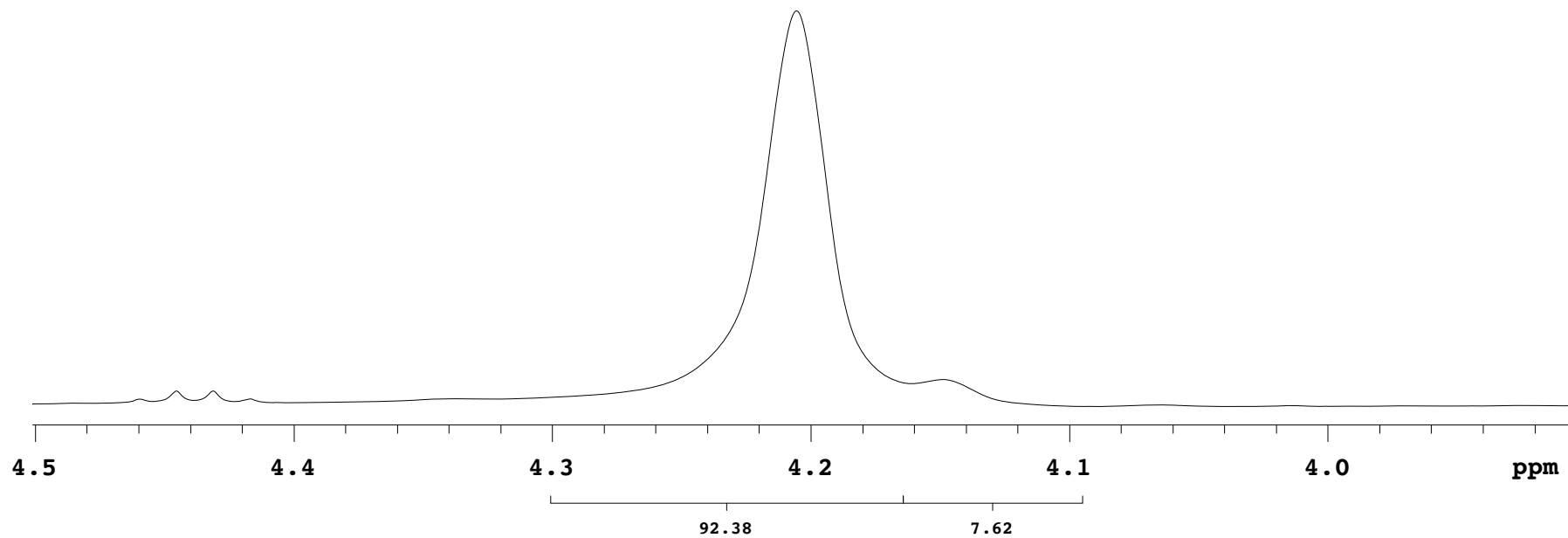
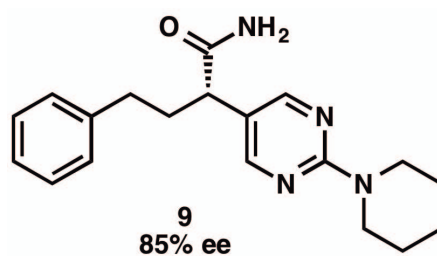
Pulse sequence CARBON
Solvent cdcl3

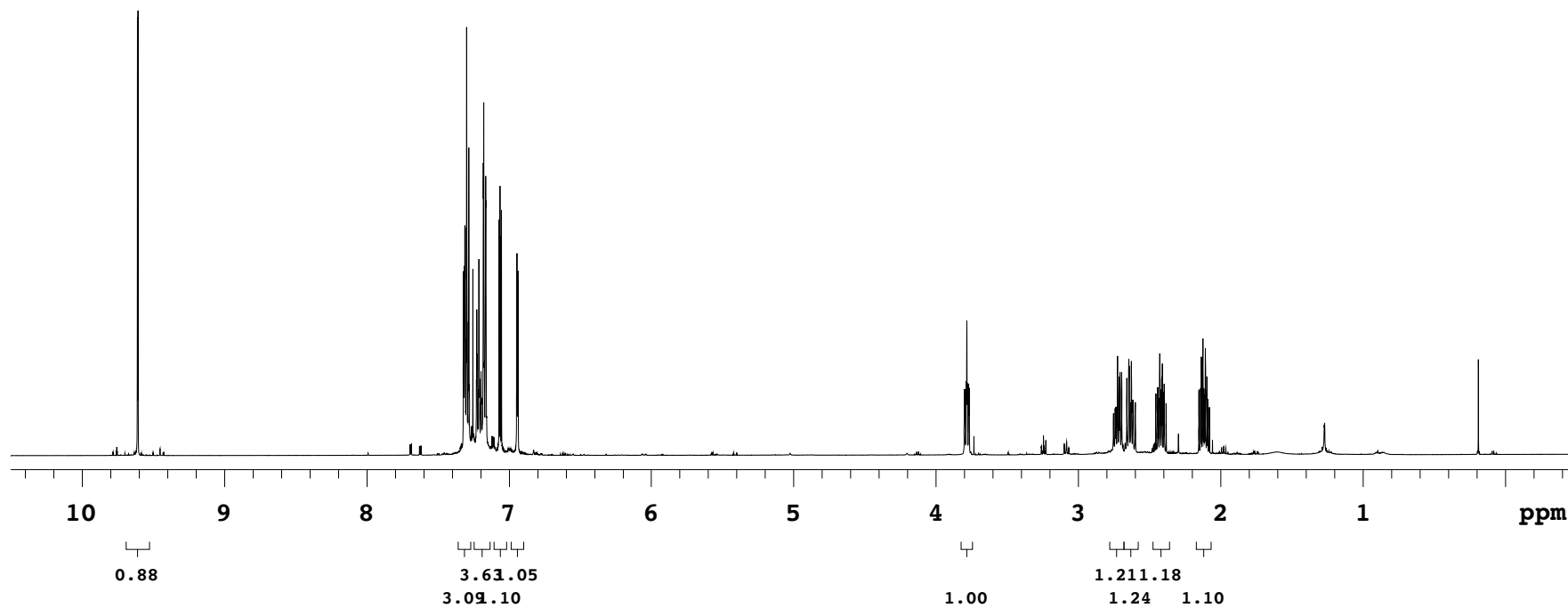
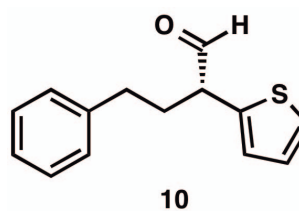
Temperature 25
Spectrometer -vnmrs400

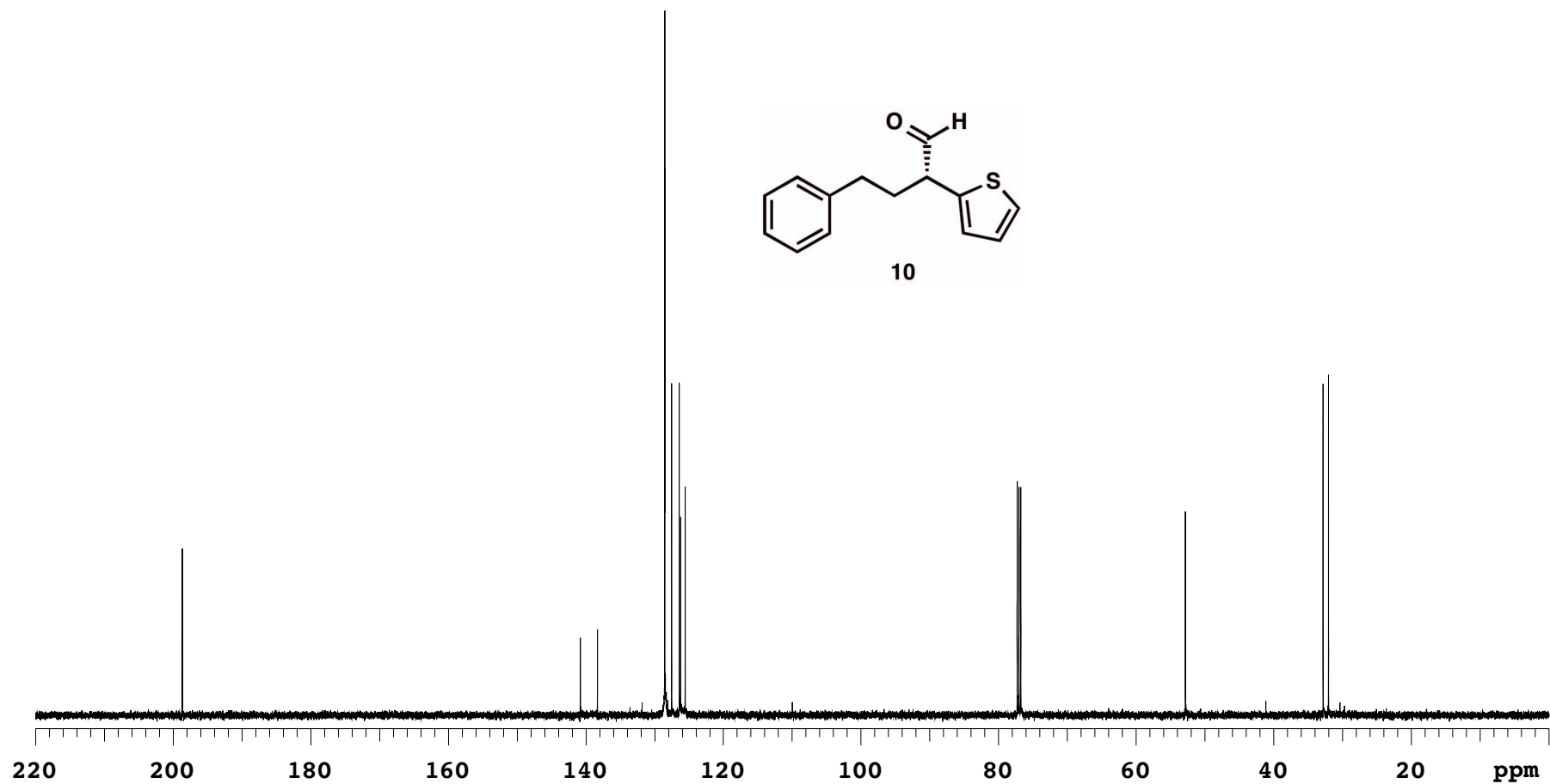
Study owner nkadunce
Operator autouser

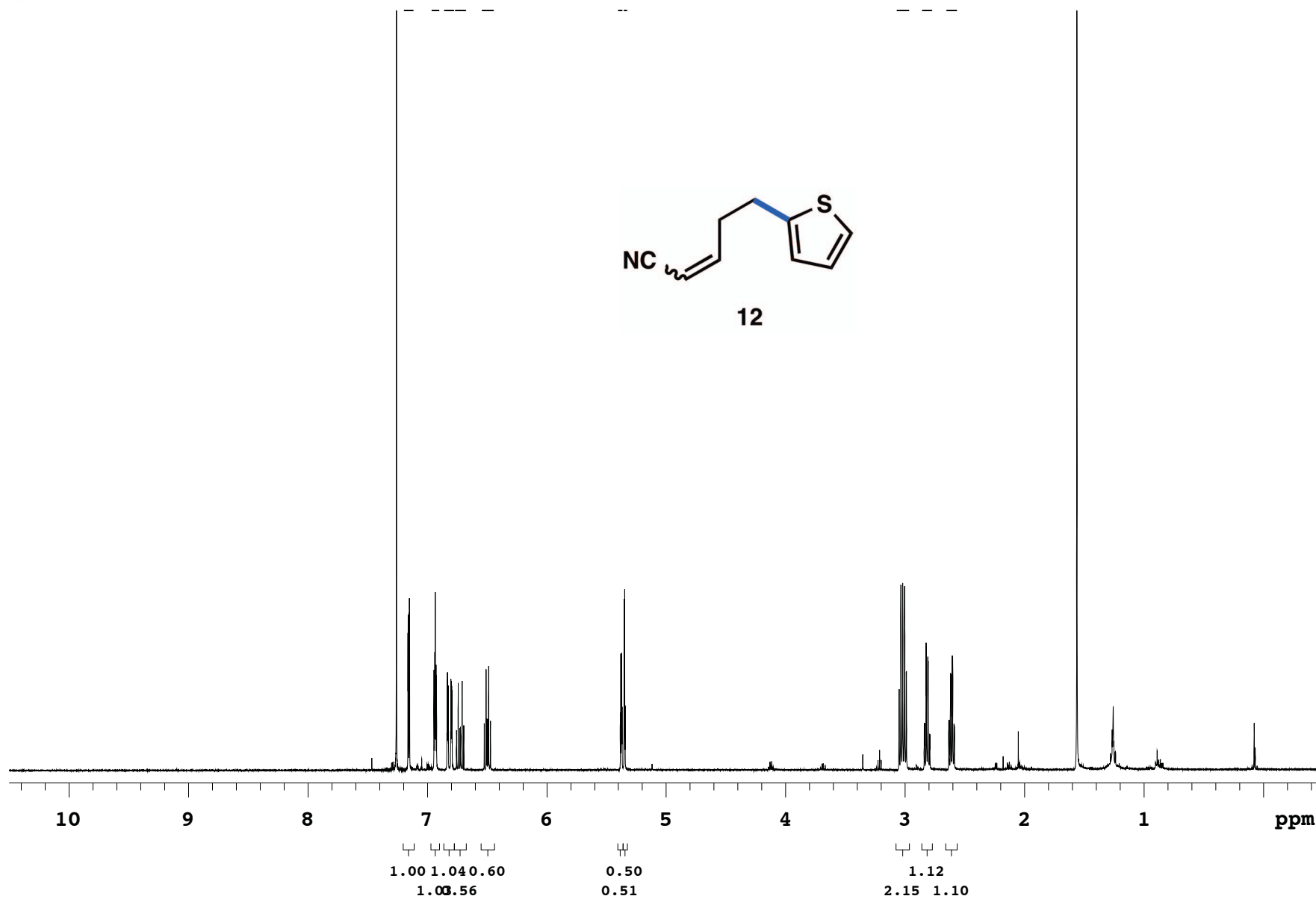












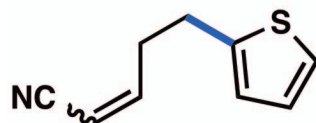
NTK-IV-110-Thiophene-Prep1

Sample Name NTK-IV-110-Thiophene-Prep1
Date collected 2015-05-14

Pulse sequence CARBON
Solvent cdcl3

Temperature 25
Spectrometer -vnmrs400

Study owner nkadunce
Operator autouser



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